



25th Annual

# Cases in Echocardiography, Cardiac CT, and MRI

**October 21-24, 2015**

The Meritage Resort  
Napa, CA



## **Program Directors:**

*Heidi M. Connolly, M.D., F.A.C.C.*

*Fletcher A. Miller, Jr., M.D., F.A.C.C., F.A.S.E.*

*Rick A. Nishimura, M.D., F.A.C.C.*

**REGISTER ONLINE NOW!**

<http://www.mayo.edu/cme/casesinecho2015>

# General Information

## Course Description

This advanced course is designed to provide the clinician and advanced sonographer with an update on transthoracic, stress, and transesophageal echocardiography as well as cardiac CT and MRI. It is not a "how-to" course, but instead will concentrate on the application of these modalities to clinical decision making.

The program consists primarily of clinical cases which illustrate the problems cardiovascular specialists commonly encounter. Multiple choice questions addressing the clinical utility and limitations of echocardiography follow each case. In addition, faculty presents "rapid fire" and "unknown" cases. The audience is also encouraged to bring unknown cases which will be shown during the sessions.

Special breakout sessions are devoted to the interpretation of Doppler hemodynamics, diastolic function, stress echocardiography, congenital heart disease, interventional and perioperative echocardiography.

This course is designed to encourage maximum audience participation and interaction with the faculty.

## Course Learning Objectives

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

- Optimize selection of imaging modalities to aid in clinical decision making for evaluation and management of patients with valvular heart disease;
- Identify normal and abnormal features of patients with prosthetic valves;
- Identify the pitfalls of interpretation with exercise and dobutamine stress echocardiography;
- Apply Doppler hemodynamics into clinical decision-making in patients with heart failure symptoms with both normal and abnormal systolic function;
- Describe a systematic approach to echocardiography for patients with complex congenital heart disease;
- Recite the utility of echocardiography in patients with acute ischemic syndromes and other acute illnesses requiring admission to the intensive care unit; and
- Identify common indications and potential pitfalls for intraoperative transesophageal echocardiography.

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 intended for physicians and sonographers with an advanced background in echocardiography.

## Credit

Mayo Clinic College of Medicine is accredited by the Accreditation Council for Continuing Medical Education to provide continuing medical education for physicians.

Mayo Clinic College of Medicine designates this live activity for a maximum of 24.5 *AMA PRA Category 1 Credits*<sup>™</sup>. 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.

## 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

All sessions will be held at The Meritage Resort, 875 Bordeaux Way, Napa, CA 94558. The general session will be in the Carneros Ballroom. Exhibitors, breakfast, and refreshment breaks will be in pre-function area. Meeting site telephone: 707-251-1900 and fax: 707-254-8274.



## Registration

To register online, visit <http://www.mayo.edu/cme/casesinecho2015>. The registration fee includes tuition, comprehensive course syllabus, continental breakfasts, break refreshments, lunch, and welcome reception. Although it is not Mayo Clinic Division of Cardiovascular Diseases 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 sent upon receipt of payment and completed registration form. Please present the confirmation letter when checking in at the meeting registration desk.

### **For additional information, contact:**

Cardiovascular Continuing Education  
200 1st Street SW/GO6-138  
Rochester, MN 55905

**Website:** <http://www.mayo.edu/cme/casesinecho2015>

**E-mail:** [cvcme@mayo.edu](mailto:cvcme@mayo.edu)

**Phone:** 800-283-6296 or 507-266-6703

**Fax:** 507-266-7403

## Travel/Transportation

### **Airlines**

- San Francisco International Airport
  - Approximately 55 miles
- Oakland International Airport
  - Approximately 47 miles
- Sacramento International Airport
  - Approximately 60 miles

*Travel arrangements are the sole responsibility of the individual registrant.*

## Lodging Accommodations

Located at the southern tip of the Napa Valley, near where Napa and Sonoma meet, The Meritage Resort offers an experience like no other for wine enthusiasts, business travelers, and special events. With the world's only spa in a wine cave, the region's only private wedding chapel, and the most expansive meeting space in the Napa Valley, The Meritage Resort brings together the perfect blend of services and facilities for an unforgettable stay in one of the world's most beautiful destinations.

To secure your room at The Meritage Resort, please call 866-370-6272 or 707-251-1900 and state that you will be attending the Mayo Clinic program. The room rate is \$229 single/double a night. A limited number of rooms are held Saturday, October 24 on departure. Once those are sold out, the rate will be \$319. When reservations are made, The Meritage will require a deposit equal to the room rate and tax for the first night. Individual attendees will be charged for one night's room and tax if they cancel within 7 days of arrival; cancellations made prior to 7 days will not be charged.

On-line reservations can be made at:  
<https://aws.passkey.com/event/13840072/owner/9669411/home>

The hotel room block is scheduled to be held until **Friday, September 25, 2015**, but has been sold out before this date in the past. Therefore, we advise you to register for the program and reserve your lodging as soon as possible. All hotel guests will be assessed a daily Resort Services Fee of \$20.00 per night, per room. This resort fee includes: welcome bottle of wine, bottled water, local and 800 number toll free calls, daily newspaper in the lobby, resort business center and fax service, in-room high speed internet, shuttle to Eagle Vines and Chardonnay Golf courses, and evening downtown Napa shuttle.

When you make your reservation, please be sure to ask about any additional fees, early departure fees, or cancellation penalties.

Check-in Time: 4:00 p.m.

Check-out Time: 11:00 a.m.

*Lodging arrangements are the sole responsibility of the individual registrant.*

Mayo Clinic Division of Cardiovascular Diseases 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

Complimentary parking is available at the hotel.

# General Information

## Social Program

### Welcome Reception

**Wednesday, October 21, 2015**

Attendees and their guest(s) are cordially invited to join the course faculty for the Welcome Reception on Wednesday, October 21, 2015, from 5:00-6:00 p.m. on the Vineyard Terrace. This casual reception welcomes you to Napa Valley, officially opens the course, and offers you the perfect opportunity to make connections with existing and new colleagues.

## Recreation/ Leisure Activities

For a list of local attractions, please visit:

<http://www.napa valley.org/>

or

<http://www.themeritageresort.com/local-attractions.php>

## Faculty

### Course Directors

*Heidi M. Connolly, M.D., FACC*  
Professor of Medicine, Mayo Clinic;  
Consultant, Division of Cardiovascular Diseases; Director, Mayo Clinic Adult Congenital Heart Center; Chair for Education, Division of Cardiovascular Diseases, Mayo Clinic, Rochester, MN

*Fletcher A. Miller, Jr., M.D., FACC, FASE*  
Professor of Medicine, Mayo Clinic;  
Consultant, Division of Cardiovascular Diseases and Internal Medicine; Past Director, Cardiovascular Ultrasound Imaging and Hemodynamic Laboratory, Mayo Clinic, Rochester, MN

*Rick A. Nishimura, M.D., MACC, MACP*  
Judd and Mary Morris Leighton Professor of Cardiovascular Diseases; Professor of Medicine, Mayo Clinic; Consultant, Division of Cardiovascular Diseases and Internal Medicine; Director, Valvular Heart Disease Clinic, Mayo Clinic, Rochester, MN

### Mayo Faculty

*Martin D. Abel, M.D.*

Professor of Anesthesiology, Mayo Clinic;  
Consultant, Department of Anesthesiology;  
Division of Cardiovascular and Thoracic Anesthesiology, Mayo Clinic, Rochester, MN

*Nandan S. Anavekar, MB, B.Ch.*

Assistant Professor of Medicine,  
Mayo Clinic; Consultant, Division of Cardiovascular Diseases and Internal Medicine, Mayo Clinic, Rochester, MN

*Charles J. Bruce, MBChB, FCP (SA), FACC, FASE*

Professor of Medicine, Mayo Clinic;  
Director, Mayo Clinic Structural Heart Disease Center of Excellence; Consultant, Division of Cardiovascular Diseases, Mayo Clinic, Rochester, MN

*Grace Lin, M.D., FACC, FASE*

Assistant Professor of Medicine, Mayo Clinic; Director, Heart Failure Clinic; Consultant, Division of Cardiovascular Diseases, Mayo Clinic, Rochester, MN

*Guy S. Reeder, M.D., F.A.C.C.*

Professor of Medicine, Mayo Clinic;  
Consultant, Division of Cardiovascular Diseases and Internal Medicine, Mayo Clinic, Rochester, MN

*Hartzell V. Schaff, M.D., FACC, FAHA*

Stuart W. Harrington Professor of Surgery;  
Consultant, Thoracic and Cardiovascular Surgery and Past Chair, Division of Cardiovascular Surgery, Mayo Clinic, Rochester, MN

### Guest Faculty

*William F. Armstrong, M.D., FACC, FASE*

Professor of Internal Medicine; Director, Echocardiography Laboratory; Associate Clinical Chief, Division of Cardiology; University of Michigan Health System, Ann Arbor, MI

### 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.



# Program Schedule

## Tuesday, October 20, 2015

6:00-7:00 p.m. **Registration**  
Carneros Prefunction

## Wednesday, October 21, 2015

7:30 a.m. **Registration/  
Continental Breakfast**  
Carneros Prefunction

8:00 a.m. **Welcome and Course  
Overview**  
*Drs. Miller, Nishimura, and  
Connolly*

8:15 a.m. **Clinical Decision Making:  
Cases in Valvular Heart  
Disease and Endocarditis**  
**Cases 1-7**  
*Drs. Nishimura, Connolly, Miller  
and Bruce*

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

10:45 a.m. **Lecture:  
Perioperative Assessment of  
High-Risk Cardiac Patients**  
*Dr. Abel*

11:15 a.m. **Clinical Decision Making:  
Cases in Valvular Heart  
Disease, Prosthetic Valve  
and Endocarditis**  
**Cases 8-10**  
*Drs. Bruce, Schaff, and Abel*

**Pre-recorded Lecture: Mechanical Versus  
Tissue Valve Prosthesis – Making the  
Right Choice for Your Patients** (link sent  
out in advance)  
*Dr. Schaff*  
(No CME Offered)

**Pre-recorded Lecture: Cardiac MRI and  
CT: Basic Principles for Non-  
Radiologists. When Should I Choose  
Which Test?\*** (link sent out in advance)  
*Dr. Anavekar*  
(No CME Offered)

12:15 p.m. **Lunch**  
Oakville and Rutherford  
Terrace

## Wednesday, October 21, 2015 - continued

1:15 p.m. **Cases in Stress  
Echocardiography and MRI:  
Read With the Experts**  
**Cases 11-16**  
*Drs. Armstrong, Bruce, and  
Anavekar*

2:45 p.m. **Refreshment Break**

3:15 p.m. **Cases in Aortic Disease**  
**Cases 17-20**  
*Drs. Connolly, Anavekar, Bruce,  
Abel, and Schaff*

4:15 p.m. **Rapid Fire Case  
Presentations –  
Test Your Skills**  
*All Faculty*

5:00-6:00 p.m. **Welcome Reception**  
Vineyard Terrace  
All Faculty, Participants, and  
Exhibitors (Guests Invited)

## Thursday, October 22, 2015

7:30 a.m. **Continental Breakfast**

8:00 a.m. **Clinical Decision Making:  
Cases from the ICU**  
**Cases 21-26**  
*Drs. Reeder, Schaff, Anavekar,  
and Abel*

9:30 a.m. **Echo in End-Stage  
Heart Failure**  
**Cases 27-28**  
*Dr. Lin*

10:00 a.m. **Unknown Cases from  
Michigan**  
**Cases 29-30**  
*Dr. Armstrong*

10:30 a.m. **Refreshment Break**

**Pre-recorded Lecture: Echocardiography  
in Congenital Heart Disease: A Systematic  
Approach** (link sent out in advance)  
*Dr. Connolly*  
(No CME Offered)

11:00 a.m. **Cases in Congenital Heart  
Disease and Pregnancy and  
Heart Disease**  
**Cases 31-36**  
*Drs. Connolly and Nishimura*

## Thursday, October 22, 2015 - continued

12:30 p.m.     **Lunch**  
Oakville and Rutherford  
Terrace

Breakout Sessions	
1:30 p.m. - 3:00 p.m. <i>(Attendees can rotate after 45 minutes or stay in one session for entire time.)</i>	<b>A. Intraoperative and Perioperative Echocardiography</b> Salon AK <i>Drs. Abel and Schaff</i>
	<b>B. Congenital Heart Disease</b> Salon BJ <i>Dr. Connolly</i>
3:00 p.m. - 4:30 p.m. <i>(Attendees can rotate after 45 minutes or stay in one session for entire time.)</i>	<b>C. Stress Echocardiography</b> Salon CH <i>Dr. Armstrong</i>
	<b>D. 3-D and Interventional Echocardiography</b> Salon DEFG <i>Dr. Bruce</i>

3:30 p.m.     **Adjourn**

## Friday, October 23, 2015

7:30 a.m.     **Continental Breakfast**

### Pre-recorded Lecture: A Practical Approach to Evaluation of Diastolic Function of the Heart By Doppler

(link sent out in advance)

*Dr. Nishimura*

(No CME Offered)

### Pre-recorded Lecture: Review of Strain for Ventricular Function

*Dr. Miller*

(No CME Offered)

8:00 a.m.     **Clinical Decision Making: Cases in Heart Failure**  
**Cases 37-43**  
*Drs. Miller, Nishimura, Schaff, Abel, and Lin*

10:00 a.m.     **Refreshment Break**

10:30 a.m.     **Clinical Decision Making: Cases in Heart Failure II**  
**Cases 44-46**  
*Drs. Lin and Miller*

11:15 a.m.     **Rapid Fire Cases, Interesting Cases from the Audience**  
*Attendees and All Faculty*

## Friday, October 23, 2015 - continued

12:30 p.m.     **Lunch**  
Oakville and Rutherford  
Terrace

Breakout Sessions	
1:30 p.m. - 3:00 p.m. <i>(Attendees can rotate after 45 minutes or stay in one session for entire time.)</i>	<b>A. Diastole</b> Salon AK <i>Dr. Nishimura</i>
	<b>B. Hemodynamics</b> Salon BJ <i>Dr. Miller</i>
3:00 p.m. - 4:30 p.m. <i>(Attendees can rotate after 45 minutes or stay in one session for entire time, but will not be able to do all three.)</i>	<b>C. Multimodality Imaging*</b> Salon CH <i>Dr. Anavekar</i>
	<b>D. Echocardiography in the Cath Lab and ICU</b> Salon DEFG <i>Dr. Reeder</i>
	<b>E. Echocardiography in Heart Failure</b> Salon FG <i>Dr. Lin</i>

3:30 p.m.     **Adjourn**

## Saturday, October 24, 2015

7:30 a.m.     **Continental Breakfast**

8:00 a.m.     **Cases of Masses and Source of Embolism**

**Cases 47-49**

*Drs. Reeder and Anavekar*

9:00 a.m.     **Special Presentation – Echocardiographic Case of the Year**

Audience votes for the best case.

**Cases 50-59**

*All Faculty*

10:30 a.m.     **Refreshment Break**

10:45 a.m.     **Interesting Cases**  
*Participants and Faculty*

12:00 p.m.     **Closing Remarks and Adjournment**

# REGISTRATION

**Registration is only available online at:**  
*<http://www.mayo.edu/cmel/casesinecho2015>*

## **Registration Fee:**

<b>Course Registration (MD, PhD, DO, PharmD)</b>	<b>\$740.00</b>
<b>Course Registration (Fellows in Training, Sono, RN)</b>	<b>\$615.00</b>

Mayo Clinic Division of Cardiovascular Diseases implemented an online conference registration system in January 2012. If this is your first time using the online system, you will need to create a profile. The attendee's email address is required upon registration. A letter of confirmation and receipt will be forwarded to this email address upon receipt of submitted registration and payment. Present this letter when checking in at the meeting registration desk.

The registration fee includes tuition, comprehensive on-line course syllabus, continental breakfasts, break refreshments, lunch, and welcome reception.

Although it is not Division of Cardiovascular Diseases 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:**

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

**E-mail:** [cvcme@mayo.edu](mailto:cvcme@mayo.edu)

**Phone:** 800-283-6296 or 507-266-6703

**Website:** <http://www.mayo.edu/cme/casesinecho2015>

## **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 Division of Cardiovascular Diseases before **Wednesday, October 7, 2015** ([cvcme@mayo.edu](mailto:cvcme@mayo.edu) or fax#: 507-266-7403). **No refunds will be made on or after Wednesday, October 7, 2015.** Canceled registrations are non-transferable.

Division of Cardiovascular Diseases reserves the right to cancel or postpone any course due to unforeseen circumstances. In the unlikely event Division of Cardiovascular Diseases must cancel or postpone this course, Division of Cardiovascular Diseases 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.

## **FUTURE PROGRAM DATE**

**Next year's course will be held in Napa at  
The Meritage October 19-22, 2016.**



**MAYO CLINIC**  
200 First Street SW/GO6-138  
Rochester, MN 55905

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