



# 2017 MULTIDISCIPLINARY UPDATE IN **PULMONARY & CRITICAL CARE MEDICINE**



## **COURSE DIRECTORS:**

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**PHOENIX, ARIZONA**

APRIL 6-9, 2017

JW MARRIOTT DESERT RIDGE RESORT & SPA

## **Additional Educational Opportunity**

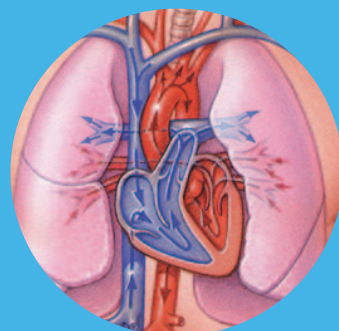
### **EXTRACORPOREAL MEMBRANE OXYGENATION (ECMO) WORKSHOP**

ELSO Award for Excellence in  
Extracorporeal Life Support Center

**SCOTTSDALE, AZ**

APRIL 4-5, 2017

MAYO CLINIC COLLABORATIVE RESEARCH BUILDING



## **REGISTER NOW!**

[www.ce.mayo.edu/pulmonary2017](http://www.ce.mayo.edu/pulmonary2017) (\$75 DISCOUNT – Expires March 6, 2017)

[www.ce.mayo.edu/ECMO2017](http://www.ce.mayo.edu/ECMO2017) (\$100 DISCOUNT – Expires March 4, 2017)

# EXTRACORPOREAL MEMBRANE OXYGENATION (ECMO) WORKSHOP

Mayo Clinic Center for Procedural Innovation  
April 4-5, 2017 – Scottsdale, Arizona

## COURSE DESCRIPTION

Intended for Pulmonary and Critical Care Physicians, Anesthesiologists, Thoracic Surgeons, and Vascular Surgeons, this highly immersive hands-on workshop provides the latest techniques and technology surrounding the clinical use of Extracorporeal Membrane Oxygenation (ECMO). Through integrated clinical scenarios, providers will apply the knowledge gained towards the initiation and management of ECMO on simulated cases of acute respiratory and hemodynamic failure. Attendees will deepen their understanding of the applied physiology of both venovenous and venoarterial ECMO utilizing live tissue and high fidelity simulation labs and its interaction with conventional life support treatments.

## WORKSHOP INFORMATION

Please note that the course is held on Mayo Clinic's Scottsdale campus. Course website offers travel information. This activity is not held at the JW Marriott Desert Ridge Resort.

## COURSE LEARNING OBJECTIVES

Upon completion of this course, participants should be able to:

- Identify the components of the ECMO circuit.
- Describe basic and advanced physiology of Venovenous and Venoarterial ECMO.
- Recognize major indications and contraindications of Venovenous and Venoarterial ECMO.
- Identify common problems and major complications of ECMO.
- Differentiate the interaction ECMO has on various patient organ systems.
- Comprehensively assess the ECMO patient with appropriate monitoring techniques.

## 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/enduring material/journal-based CME activity for a maximum of 15.0 AMA PRA Category 1 Credits™.

Attendees should claim only the credit commensurate with the extent of their participation in the activity. A record 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.

## ECMO REGISTRATION FEE

\$2,599 until March 4, 2017, \$2,699 thereafter.

(No discounts offered. Fee includes all lectures, lab supplies, scrub usage, and meals during the workshop.)

Limited Space Available – Register now at <https://ce.mayo.edu/ECMO2017>

ELSO Award  
for Excellence in  
Extracorporeal Life  
Support Center

## COURSE DIRECTORS

Bhavesh M. Patel, M.D.

Patrick A. DeValeria, M.D.

## MAYO CLINIC FACULTY

Cory M. Alwardt, C.C.P., Ph.D.

Pramod K. Guru, M.B.B.S.

Hannelisa E. Callisen, P.A.-C

Gregory J. Schears, M.D.

Jama Jahanyar, M.D., Ph.D.

Ayan Sen, M.D.

Arun L. Jayaraman, M.D., Ph.D.

Donald S. Wilson, C.C.P.

## GUEST FACULTY

Heidi J. Dalton, M.D., M.C.C.M.

Hussein Kanji, M.D., MSc, M.P.H.

Donald A. Granoski, R.R.T.

Thomas J. Preston, C.C.P., F.P.P.

# Program

The ECMO Program consists of rotations between Didactic lectures and Hands-On stations. The Hands-On stations consist of simulated manikins and live tissue. The program is designed so each participant will experience all stations and lectures. The topics are listed below.

## Tuesday, April 4, 2017

- 7:00 a.m. **Registration/Continental Breakfast**
- 7:45 **Announcements and Intro to Simulation**
- 8:00 **Intro to Adult ECMO Physiology**
- 8:30 **Intro to ECMO Circuits and Devices**
- 9:00 **Concurrent Session 1**

### LECTURES:

- Indications and Patient Selection
- Cannula Selection & Cannulation Techniques for VV & VA
- Initiation and Monitoring

### LAB SIMULATIONS:

- Simulation 1
- Simulation 2
- Simulation 3

- 10:15 **Break and Rotate Groups**
- 10:45 **Repeat Concurrent Session 1**
- Noon **Lunch (provided)**
- 1:00 p.m. **Concurrent Session 2**

### LECTURES:

- Mechanical Ventilation on ECMO
- Monitoring and Optimizing Oxygen Delivery on VV & VA
- Bleeding and Thrombosis Prevention and Management

### LAB SIMULATIONS:

- Live Tissue 1
- Live Tissue 2
- Live Tissue 3

- 2:30 **Break and Rotate Groups**
- 3:00 **Repeat Concurrent Session 2**
- 4:30 **Case Presentation with ECMO Simulator**
- 5:00 **Case Reviews and Q&A**
- 5:30 **Adjourn**

## Wednesday, April 5, 2017

- 7:00 a.m. **Continental Breakfast**
- 7:30 **Integrated Assessment of the ECMO Patient**
- 8:00 **Concurrent Session 3**

### LECTURES:

- Critical Care of the ECMO Patient
- ECMO Complications and Morbidity
- Special Situations

### LAB SIMULATIONS:

- Simulation 4
- Simulation 5
- Simulation 6

- 9:30 **Break and Rotate Groups**
- 10:00 **Repeat Concurrent Session 3**
- 11:30 **Case Presentation with ECMO Simulator**
- Noon **Lunch (provided)**
- 1:00 p.m. **Concurrent Session 4**

### LECTURES:

- Weaning & Decannulation
- Economics & Program Development
- Ethics & Team Management

### LAB SIMULATIONS:

- Live Tissue 4
- Live Tissue 5
- Live Tissue 6

- 2:30 **Break and Rotate Groups**
- 3:00 **Repeat Concurrent Session 4**
- 4:30 **Case Reviews and Q&A**
- 5:00 **Adjourn**

## **COURSE DESCRIPTION**

The 2017 Multidisciplinary Update in Pulmonary and Critical Care Medicine course offers lectures, case presentations, pulmonary and critical care literature reviews. The education design, instructional method and learning format is chosen to best serve the educational needs and objectives specific for this activity. A multidisciplinary faculty from Mayo Clinic in Jacksonville, FL, Rochester, MN, and Scottsdale, AZ provides state-of-the-art update in pulmonary and critical care medicine. The presentations given by leaders in pulmonary and critical care medicine, pulmonary pathology, and radiology provide a comprehensive approach to the current evaluation and management of various respiratory diseases.

## **LEARNING OBJECTIVES**

Upon completion of this activity, participants should be able to:

- Summarize new developments in prevention and early treatment of ARDS.
- Summarize the new developments in fluid management of ICU patients.
- Describe the current treatment of Idiopathic Pulmonary Fibrosis.
- Review the Connective Tissue Disease-Associated Interstitial Lung Diseases.
- Summarize the current treatment options in Sarcoidosis.
- Review the evaluation and treatment of patients with Non-Cystic Fibrosis Bronchiectasis.
- Review the role of high flow oxygen in Acute Hypoxic Respiratory Failure.
- Summarize the role of upper airway conditions on patients with Asthma.
- Describe the current and newer treatments of patients with Asthma.
- Summarize a radiological approach to diagnosing Cystic Lung Disease.
- Review the evaluation and treatment of patients with Lymphangioleiomyomatosis.
- Review the evaluation of patients with Cystic Lung Disease.
- Review the recent advances in diagnosing Respiratory Tract Infections.
- Describe the recent advances in Bronchoscopy.
- Review the current status of Hypoglossal Nerve Stimulation in patients with Sleep Apnea.

Attendance at this Mayo Clinic 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**

One of the strengths of the Pulmonary and Critical Care Update course is representation in diverse learner medical disciplines: Pulmonology, Critical Care, Internal Medicine, Hospital Medicine, Thoracic Surgeons, Oncology, Radiation Oncology, Sleep Medicine, NPs and PAs.

Specialties that are represented include: Allergy and Immunology, Anesthesiology, Cardiovascular Disease, Emergency Medicine, Family Medicine, Infectious Diseases, Vascular Surgery, Pediatrics, and Occupational Medicine.

## **CREDIT**

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

Mayo Clinic College of Medicine designates this live activity for a maximum of 17.25 *AMA PRA Category 1 Credits*<sup>™</sup>. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

## **AAFP**

Application for CME credit has been filed with the American Academy of Family Physicians. Determination of credit is pending.

## **AOA**

This program has been accredited by the American Osteopathic Association for 17.25 credits of AOA Category 2-A.

## **Other Health Care Professionals**

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

# General Information

## MEETING LOCATION & ACCOMMODATIONS

JW Marriott Phoenix Desert Ridge Resort & Spa

5350 East Marriott Drive • Phoenix, Arizona 85054

Web: [www.jwdesertridgeresort.com](http://www.jwdesertridgeresort.com) • Telephone: (800) 835-6206 or (480) 293-5000

Online Reservations: <https://aws.passkey.com/go/Pulmonarymedicine>

The JW Marriott Phoenix Desert Ridge Resort & Spa has reserved a limited block of luxurious rooms at a special group rate of \$309 (USD), single, double, triple and quad occupancy for course participants and guests. All guest room rates are quoted exclusive of applicable state and local taxes. Children under the age of 18 will stay complimentary. Group rates will apply three days prior to, and three days after the course dates, based on group room availability.

Hotel rooms are limited. Make your reservation before the room block fills or before March 15, 2017 and reference "Mayo Clinic Pulmonary and Critical Care Course".

Attendees are responsible for their own reservations. Reservations must be cancelled seven (7) days prior to arrival. If cancellations are made less than seven (7) days prior to arrival, then a fee of one night's room and tax will be charged.

Check in time at 4 p.m. and check out time at 11:00 a.m.

Lodging arrangements are the sole responsibility of the individual registrant.

Mayo School of CPD 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.

## GROUND TRANSPORTATION

**Hertz** is offering a reduced daily rate for course registrants. Visit Hertz online at [www.hertz.com/cme2017](http://www.hertz.com/cme2017) (CV# 03NR0012). Special rates include unlimited mileage and are subject to availability. Advance reservations are recommended; blackout dates may apply.

**SuperShuttle** vans offer airport transportation to and from area hotels and businesses.

To make reservations, call (800) 258-3826 or (602) 244-9000, or visit [www.supershuttle.com](http://www.supershuttle.com).

Travel arrangements are the sole responsibility of the individual registrant.

# Faculty

## COURSE DIRECTORS

Charles D. Burger, M.D.

Ulrich Specks, M.D.

Robert W. Viggiano, M.D.

## MAYO CLINIC FACULTY

Robert C. Albright, D.O.

Craig E. Daniels, M.D.

Eric S. Edell, M.D.

Emir Festic, M.D.

Yolanda I. Garces, M.D.

Peter C. Gay, M.D.

Thomas E. Grys, Ph.D.

Vivek N. Iyer, M.D.

Margaret M. Johnson, M.D.

Clinton E. Jokerst, M.D.

Augustine S. Lee, M.D.

Chad R. Nelson, M.D.

Alexander S. Niven, M.D.

Prasad M. Panse, M.D.

James M. Parish, M.D.

Bhavesh M. Patel, M.D.

Matthew A. Rank, M.D.

Jay H. Ryu, M.D.

Ayan Sen, M.D.

Yasemin S. Tashman, M.D.

Laszlo T. Vaszar, M.D.

Lewis J. Wesselius, M.D.

**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 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

## Thursday, April 6, 2017

- 7:00 a.m. **Registration & Continental Breakfast**
- 7:30 **Welcome Announcements**
- 7:40 **Assessing the Fluid Recommendations of Fluid Management in Critically Ill Patients**  
Craig E. Daniels, M.D.
- 8:20 **Acute Renal Failure: A Tale of Two Conditions**  
Robert C. Albright, D.O.
- 9:00 **Prevention and Early Treatment of Acute Respiratory Failure**  
Emir Festic, M.D.
- 9:40 **Break**
- 10:00 **High Flow Oxygen Therapy for Acute Respiratory Failure**  
Peter C. Gay, M.D.
- 10:40 **Rescue Strategies for Patients with Severe ARDS**  
Emir Festic, M.D.
- 11:20 **ECMO Update 2017**  
Bhavesh M. Patel, M.D.
- Noon **Critical Care Literature Review**  
Ayan Sen, M.D.
- 12:45 p.m. **Adjourn**

## Friday, April 7, 2017

- 7:00 a.m. **Continental Breakfast**
- 7:30 **Welcome Announcements**
- 7:40 **Update in Pneumonia**  
Chad R. Nelson, M.D.
- 8:20 **Review of Non-Cystic Fibrosis Bronchiectasis**  
Margaret M. Johnson, M.D.
- 9:00 **New Diagnostics for Respiratory Tract Infections**  
Thomas E. Grysb, Ph.D.
- 9:40 **Break**
- 10:00 **Bronchoscopy Update**  
Laszlo T. Vaszar, M.D.
- 10:40 **Interesting Lung Cancer Cases**  
Eric S. Edell, M.D.
- 11:20 **Stereotactic Body Radiation Therapy for Lung Cancer**  
Yolanda I. Garces, M.D.
- Noon **Pulmonary Literature Review**  
Alexander S. Niven, M.D.
- 12:45 p.m. **Adjourn**

## Saturday, April 8, 2017

- 7:00 a.m. **Continental Breakfast**
- 7:30 **Welcome Announcements**
- 7:40 **Radiologic Review of Cystic Lung Disease**  
Clinton E. Jokerst, M.D.
- 8:20 **Update in Lymphangiomyomatosis**  
Jay H. Ryu, M.D.
- 9:00 **Clinical Aspects of other Cystic Lung Disease**  
Augustine S. Lee, M.D.
- 9:40 **Break**

# Program

- 10:00 **Radiology of Diffuse Fibrosing Lung Disease**  
Prasad M. Panse, M.D.
- 10:40 **Update in Sarcoidosis**  
Augustine S. Lee, M.D.
- 11:20 **Current Treatment of Idiopathic Pulmonary Fibrosis**  
Lewis J. Wesselius, M.D.
- Noon **Connective Tissue Disease – Associated Interstitial Lung Disease**  
Jay H. Ryu, M.D.
- 12:45 p.m. **Adjourn**

## Sunday, April 9, 2017

- 6:30 a.m. **Continental Breakfast**
- 6:55 **Welcome Announcements**
- 7:00 **Difficult to Control Asthma: A Pulmonary Perspective**  
Vivek N. Iyer, M.D.
- 7:45 **Difficult to Control Asthma: An Allergy Perspective**  
Matthew A. Rank, M.D.
- 8:30 **Break**
- 8:45 **Hypoglossal Nerve Stimulation**  
James M. Parish, M.D.
- 9:30 **Neurological Disorders and Sleep**  
Yasemin S. Tashman, M.D.
- 10:15 **Adjourn**

*Program schedule is subject to change without notice.*

# Registration

Visit [ce.mayo.edu/pulmonary2017](https://ce.mayo.edu/pulmonary2017) to register online. The registration fee includes tuition, comprehensive course syllabus (electronic), continental breakfasts, and break refreshments. Although it is not Mayo School of Continuous Professional Development (CPD) policy to limit the number of registrants for a course, conference room facilities may necessitate closing of enrollment; therefore, early registration is advised. A confirmation is provided upon receipt of payment. Please present the confirmation letter when checking in at the meeting registration desk.

**REGISTER NOW!**  
**PULMONARY AND CRITICAL CARE MEDICINE**  
**\$75 DISCOUNT FOR EARLY REGISTRATION expires March 6, 2017**  
**<https://ce.mayo.edu/pulmonary2017>**

	<b>On or Before March 6, 2017</b>	<b>After March 6, 2017</b>
Physicians Active in Practice	\$590	\$665
Allied Health, Residents and Retired	\$485	\$560

For additional information, contact:

**Mayo School of Continuous Professional Development**

13400 East Shea Boulevard • Scottsdale, Arizona 85259

Website: [ce.mayo.edu](https://ce.mayo.edu) • E-mail: [mca.cme@mayo.edu](mailto:mca.cme@mayo.edu)

Phone number: (480) 301-4580

**CANCELLATION POLICY:** No refund will be granted unless a written notice of cancellation is received.

If registration must be canceled, tuition less a \$75 administrative fee will be refunded when notification is received on or before March 23, 2017. No refunds will be made after this date. Canceled registrations are non-transferable.

Mayo School of CPD reserves the right to cancel or postpone any course due to unforeseen circumstances.

In the unlikely event Mayo School of CPD must cancel or postpone this course, Mayo School of CPD 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.