2017 MULTIDISCIPLINARY UPDATE IN PULMONARY & CRITICAL CARE MEDICINE

PHOENIX, ARIZONA
APRIL 6-9, 2017
JW MARRIOTT DESERT RIDGE RESORT & SPA

COURSE DIRECTORS:
Charles D. Burger, M.D.
Ulrich Specks, M.D.
Robert W. Viggiano, M.D.

EXTRACORPOREAL MEMBRANE OXYGENATION (ECMO) WORKSHOP

SCOTTSDALE, AZ
APRIL 4-5, 2017
MAYO CLINIC COLLABORATIVE RESEARCH BUILDING

Additional Educational Opportunity

ELSO Award for Excellence in Extracorporeal Life Support Center

REGISTER NOW!

www.ce.mayo.edu/pulmonary2017 ($75 DISCOUNT – Expires March 6, 2017)
www.ce.mayo.edu/ECMO2017 ($100 DISCOUNT – Expires March 4, 2017)
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 current 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™. 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.
MEETING LOCATION & ACCOMMODATIONS
JW Marriott Phoenix Desert Ridge Resort & Spa
5350 East Marriott Drive • Phoenix, Arizona 85054
Web: 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 (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. 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.  Alexander S. Niven, M.D.
Craig E. Daniels, M.D.  Prasad M. Panse, M.D.
Eric S. Edell, M.D.  James M. Parish, M.D.
Emir Festic, M.D.  Bhavesh M. Patel, M.D.
Yolanda I. Garces, M.D.  Matthew A. Rank, M.D.
Peter C. Gay, M.D.  Jay H. Ryu, M.D.
Thomas E. Gryys, Ph.D.  Ayan Sen, M.D.
Vivek N. Iyer, M.D.  Yasemin S. Tashman, M.D.
Margaret M. Johnson, M.D.  Laszlo T. Vaszar, M.D.
Clinton E. Jokerst, M.D.  Lewis J. Wesselius, M.D.
Augustine S. Lee, 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).
<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
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</thead>
<tbody>
<tr>
<td>7:00 a.m.</td>
<td>Registration &amp; Continental Breakfast</td>
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<tr>
<td>7:30</td>
<td>Welcome Announcements</td>
</tr>
</tbody>
</table>
| 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**

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<tr>
<th>Time</th>
<th>Event</th>
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<tbody>
<tr>
<td>7:00 a.m.</td>
<td>Continental Breakfast</td>
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<tr>
<td>7:30</td>
<td>Welcome Announcements</td>
</tr>
</tbody>
</table>
| 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. Grys, 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**

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<thead>
<tr>
<th>Time</th>
<th>Event</th>
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<tbody>
<tr>
<td>7:00 a.m.</td>
<td>Continental Breakfast</td>
</tr>
<tr>
<td>7:30</td>
<td>Welcome Announcements</td>
</tr>
</tbody>
</table>
| 7:40  | Radiologic Review of Cystic Lung Disease    
Clinton E. Jokerst, M.D. |
| 8:20  | Update in Lymphangioleiomyomatosis     
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. Wessellius, 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 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

<table>
<thead>
<tr>
<th></th>
<th>On or Before March 6, 2017</th>
<th>After March 6, 2017</th>
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<tbody>
<tr>
<td>Physicians Active in Practice</td>
<td>$590</td>
<td>$665</td>
</tr>
<tr>
<td>Allied Health, Residents and Retired</td>
<td>$485</td>
<td>$560</td>
</tr>
</tbody>
</table>

For additional information, contact:
Mayo School of Continuous Professional Development
13400 East Shea Boulevard • Scottsdale, Arizona 85259
Website: ce.mayo.edu • E-mail: 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.
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

COURSE DIRECTORS
Bhavesh M. Patel, M.D.
Patrick A. DeValeria, M.D.

MAYO CLINIC FACULTY
Cory M. Alwardt, C.C.P., Ph.D.
Hannelisa E. Callisen, P.A.-C
Jama Jahanyar, M.D., Ph.D.
Arun L. Jayaraman, M.D., Ph.D.
Pramod K. Guru, M.B.B.S.
Gregory J. Schears, M.D.
Ayan Sen, M.D.
Donald S. Wilson, C.C.P.

GUEST FACULTY
Heidi J. Dalton, M.D., M.C.C.M.
Donald A. Granoski, R.R.T.
Laurance Lequier, M.D., F.R.C.P.C.
Thomas J. Preston, C.C.P., F.P.P.
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

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
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<tbody>
<tr>
<td>7:00 a.m.</td>
<td>Registration</td>
</tr>
<tr>
<td>7:45</td>
<td>Announcements and Intro to Simulation – Bhavesh Patel, M.D.</td>
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<tr>
<td>8:00</td>
<td>Intro to Adult ECMO Physiology</td>
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<tr>
<td>8:30</td>
<td>Intro to ECMO Circuits and Devices</td>
</tr>
<tr>
<td>9:00</td>
<td>Consecutive Session 1</td>
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**LECTURES:**
1. Indications and Patient Selection
2. Cannula Selection & Cannulation Techniques for VV & VA
3. Initiation and Monitoring

**LAB SIMULATIONS:**
1. Cannulation Technique 1
2. Circuit Set-up & Demonstration
3. Knobology and Monitoring of the ECMO Circuit

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<tr>
<th>Time</th>
<th>Event</th>
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<tbody>
<tr>
<td>10:15</td>
<td>Break and Rotate Groups</td>
</tr>
<tr>
<td>10:45</td>
<td>Repeat Consecutive Session 1</td>
</tr>
<tr>
<td>Noon</td>
<td>Lunch (provided)</td>
</tr>
<tr>
<td>1:00 p.m.</td>
<td>Consecutive Session 2</td>
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**LECTURES:**
1. Mechanical Ventilation on ECMO
2. Monitoring and Optimizing Oxygen Delivery on VV & VA
3. Bleeding and Thrombosis Prevention and Management

**LAB SIMULATIONS:**
1. Open/Physiology Live Tissue
2. ECMO-Patient Interactions & Monitoring
3. ECMO-Vent Interactions & Monitoring

### Wednesday, April 5, 2017

<table>
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<tr>
<th>Time</th>
<th>Event</th>
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<tbody>
<tr>
<td>7:00 a.m.</td>
<td>Refreshments</td>
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<tr>
<td>7:30</td>
<td>Integrated Assessment of the ECMO Patient</td>
</tr>
<tr>
<td>8:00</td>
<td>Consecutive Session 3</td>
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**LECTURES:**
1. Critical Care of the ECMO Patient
2. ECMO Complications and Morbidity
3. Special Situations

**LAB SIMULATIONS:**
1. Cannulation Technique 2
2. CPR on ECMO
3. ECMO and Ultrasound

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<th>Time</th>
<th>Event</th>
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<tbody>
<tr>
<td>9:30</td>
<td>Break and Rotate Groups</td>
</tr>
<tr>
<td>10:00</td>
<td>Repeat Consecutive Session 3</td>
</tr>
<tr>
<td>11:30</td>
<td>Case Presentation with ECMO Simulator</td>
</tr>
<tr>
<td>Noon</td>
<td>Lunch (provided)</td>
</tr>
<tr>
<td>1:00 p.m.</td>
<td>Consecutive Session 4</td>
</tr>
</tbody>
</table>

**LECTURES:**
1. Weaning & Decannulation
2. Economics & Program Development
3. Ethics & Team Management

**LAB SIMULATIONS:**
1. Open/Physiology Live Tissue
2. The Failing Heart
3. The Recovering Heart

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<tr>
<th>Time</th>
<th>Event</th>
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<tbody>
<tr>
<td>2:30</td>
<td>Break and Rotate Groups</td>
</tr>
<tr>
<td>3:00</td>
<td>Repeat Consecutive Session 4</td>
</tr>
<tr>
<td>4:30</td>
<td>Case Reviews and Q&amp;A</td>
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<tr>
<td>5:00</td>
<td>Adjourn</td>
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