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http://ce.mayo.edu/ventilationconference2019

Mayo Clinic
Mechanical Ventilation Conference
October 10-12, 2019
The Kahler Grand Hotel • Rochester, MN
Course Description

*Mayo Clinic Mechanical Ventilation Conference* is designed to provide high quality education and detailed hands-on instruction in mechanical ventilation management and to bring physicians, respiratory therapists, and other health care providers who are involved in providing respiratory care on a daily basis.

Course Learning Objectives

Upon conclusion of this program, participants should be able to

1. Outline the physiologic principles and cardiopulmonary interactions underlying the risks, benefits, and applications of ventilator support for respiratory failure.
2. Describe in detail the use of different modes of ventilator support for patients with respiratory failure.
3. Demonstrate appropriate use of mechanical ventilation equipment following participation in hands-on workshop.
4. Integrate pulmonary mechanics at the bedside in a personalized approach to mechanical ventilation.

Intended Audience

Mayo Clinic Mechanical Ventilation Conference is designed for critical care providers, respiratory therapists, physicians, physician assistants and nurse practitioners.

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 (ACGME), the Accreditation Council for Pharmacy Education (ACPE), and the American Nurses Credentialing Center (ANCC) to provide continuing education for the healthcare team.

The American Medical Association (AMA) and the Accreditation Council for Continuing Medical Education (ACCME). Mayo Clinic College of Medicine and Science 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.

The American Association for Respiratory Care approves a maximum of 17.00 contact hours Continuing Respiratory Care Education (CRCE) credit for this activity.
Date and Location

*Mayo Clinic Mechanical Ventilation Conference* will be held October 10-12, 2019. Conference headquarters will be located in Heritage Hall on the subway level of The Kahler Grand Hotel, 20 SW Second Avenue, Rochester, Minnesota 55902. Meeting facilities are easily accessible by skyway and pedestrian subway, which connect The Kahler Grand Hotel to Mayo Clinic, shops, and a variety of restaurants.


Registration

To register online, visit [https://ce.mayo.edu/anesthesiology/content/mayo-clinic-mechanical-ventilation-conference-2019](https://ce.mayo.edu/anesthesiology/content/mayo-clinic-mechanical-ventilation-conference-2019).

**The registration fee includes:** conference registration, daily continental breakfast, break refreshments and lunches (meeting participants only), and welcome reception.

Although it is not Mayo Clinic School of Continuous Professional Development (CPD) or Mayo Clinic Department of Pulmonary and Critical Care Medicine and Mayo Clinic Department of Anesthesiology and Perioperative Medicine CME policy to limit the number of registrants for a conference, 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:**
Mayo Clinic School of Continuous Professional Development
Plummer Building 2
200 First Street SW
Rochester, MN 55905

**Website:** [http://ce.mayo.edu/ventilationconference2019](http://ce.mayo.edu/ventilationconference2019)

**Phone:** 800-323-2688

Cancellation Policy

Requests for cancellations must be submitted in writing to [cme@mayo.edu](mailto:cme@mayo.edu). When cancelling a registration for a conference for a conference 14 days or more before the conference start date, a full refund (minus a $75 administrative fee) will be issued in the same form of payment the registration was received. No refunds are granted less than 14 days before the conference start date.

Mayo Clinic Department of Pulmonary and Critical Care Medicine, Mayo Clinic Department of Anesthesiology and Perioperative Medicine and/or Mayo Clinic School of Continuous Professional Development reserves the right to cancel or postpone any conference due to unforeseen circumstances. In the unlikely event Mayo Clinic Department of Pulmonary and Critical Care Medicine, Mayo Clinic Department of Anesthesiology and Perioperative Medicine and/or Mayo Clinic School of Continuous Professional Development must cancel or postpone this conference, Mayo Clinic School of Continuous Professional Development 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.
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, United and Delta 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 Kahler Grand Hotel and 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.

Minneapolis/St. Paul International Airport (MSP) is located approximately 82 miles from Rochester. The following shuttle services offer multiple trips daily.

**Groome Transportation**
- 800-280-9270
- $37 per person
- [http://www.groometransportation.com/](http://www.groometransportation.com/)

**Rochester Shuttle Service**
- 507-216-6354
- $34 per person
- [http://www.rochestershuttleservice.com](http://www.rochestershuttleservice.com)

Rates are quoted for one-way fares to or from the Minneapolis Airport. Rates are subject to change and do not include taxes, fee, or gratuities.

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

Parking

Parking is available in hotel and city ramps. The cost for parking is not included in the registration fee; parking will not be validated.
**Accommodations**

Guest rooms have been reserved for attendees and their guests with special course rates at the Kahler Grand Hotel. The hotel is easily accessible by skyway and pedestrian subway. In order to receive the special rate, *reservations must be made before the room block is filled or before the expiration date of September 18, 2019, whichever comes first.* Reservations will be taken following this date based on space and rate availability. Please identify yourself as a participant of the *2019 Mayo Clinic Ventilation Conference* when making your reservation.

**Kahler Grand Hotel**

20 Second Avenue SW  
Rochester, MN 55902  
800-533-1655 or 507-282-2581  
$149 *(Deluxe King)*

*Mayo Clinic Ventilation Conference*

or


Quoted room rates do not include taxes or service fees. All reservations must be accompanied by a first night room deposit or guaranteed with a major credit card. Check-in time is 4:00 p.m. on the day of arrival, and check-out time is 11:00 a.m. on the day of departure. Early arrival prior to 11:00 a.m. will incur an early arrival fee of $35.00.

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

Mayo Clinic Department of Pulmonary and Critical Care Medicine and Mayo Clinic Department of Anesthesiology and Perioperative Medicine are 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.

**Social Program**

**Welcome Reception – Wednesday, October 9, 2019 – 5:30 p.m.**

Attendees and guests are cordially invited to join conference faculty for the Welcome Reception on Wednesday evening, October 9, 2019. Pre-registration is requested.
General Information

Faculty

Conference Directors

Richard A. Oeckler, M.D., Ph.D
John J. Marini, M.D.
Gustavo A. Cortes Puentes, M.D.
Todd J. Meyer, R.R.T., L.R.T.

Guest Faculty

Alexander B. Adams, R.R.T., MPH, Previously Senior Research Coordinator, Department of Pulmonary, Critical Care and Sleep Medicine, HealthPartners Medical Group & Clinics, Regions Hospital, St. Paul; and Chief of Respiratory Therapy at Hennepin County Medical Center, Minneapolis, Minnesota, United States.

Marcelo Amato, M.D., Department of Pulmonary and Critical Care Medicine, Professor of Medicine, University of São Paulo, Brazil

Richard Branson, MSc, R.R.T., Professor of Surgery, Director of Clinical Research, Department of Surgery, University of Cincinnati College of Medicine, Cincinnati, Ohio. United States Chief Editor, Respiratory Care

Laurent J. Brochard, M.D., Chair, Interdepartmental Division of Critical Care Medicine, University of Toronto; Staff Physician, Critical Care Department, St. Michael’s Hospital. Keenan Chair in Critical Care and Respiratory Medicine, St. Michael’s Hospital and University of Toronto. Toronto, Canada

David J. Dries, MSE, M.D., Chair-Department of Surgery, HealthPartners Medical Group & Clinics, Regions Hospital, St. Paul; Professor of Surgery, Clinical Adjunct Professor of Emergency Medicine, and John F. Perry Jr. Chair of Trauma Surgery, University of Minnesota, Minneapolis, United States

Dean Hess, Ph.D, R.R.T., Respiratory Care, Massachusetts General Hospital, Boston, Massachusetts; United States

Rolf D. Hubmayr, M.D., Emeritus Consultant, Division of Pulmonary and Critical Care Medicine, Mayo Clinic; Professor of Medicine and Physiology, Mayo Clinic College of Medicine. Rochester, Minnesota, United States

Robert M. Kacmarek, Ph.D, R.R.T., Director, Respiratory Care Services, Massachusetts General Hospital, Boston, Massachusetts, United States

Neil R. MacIntyre Jr., M.D., Medical Director of Respiratory Care Services, Pulmonary Function Laboratory and Pulmonary Rehabilitation Program, Chief of Clinical Services, Division of Pulmonary and Critical Care Medicine, Professor of Medicine, Duke University Medical Center, Durham, North Carolina, United States

John J. Marini, M.D., Department of Pulmonary, Critical Care and Sleep Medicine, HealthPartners Medical Group & Clinics, Regions Hospital, St. Paul; Professor of Medicine, University of Minnesota Medical School, Minneapolis, United States

Michael Quintel, M.D., Ph.D, Chair, Department of Anesthesiology, Emergency and Intensive Care Medicine. Professor of Anesthesiology, University of Göttingen. He served as President of the German Interdisciplinary Society of Intensive Care Medicine (DIVI). Göttingen, Germany

Mayo Clinic Faculty

James E. Baker, R.R.T., L.R.T
Holly D. Behrens, R.R.T., L.R.T.
John K. Bohman, M.D.
Gustavo A. Cortes Puentes, M.D.
Onur Demirci, M.D.
Jennifer L. Elmer, APRN, CNS, D.N.P.
Bhargavi Gali, M.D.
Alice Gallo De Moraes, M.D.
Peter C. Gay, M.D.
Denzil R. Hill, M.D.
Steven R. Holets, R.R.T., L.R.T.
Andrea T. Lehnhertz, APRN, CNS, M.S.N.
Todd J. Meyer, R.R.T., L.R.T.
Richard A. Oeckler, M.D., Ph.D.
Richard K. Patch III, M.D.
Bernardo J. Selim, M.D.
Charles R. Sims III, M.D.
Day 1 – Thursday, October 10, 2019

7:00  Registration and Continental Breakfast

7:45  Welcome, Overview and Announcements.
Richard A. Oeckler, M.D., Ph.D and John J. Marini, M.D.

Lectures: Basics Physiologic Principles: Understanding Mechanical Ventilation

8:00  Core Principles of Ventilatory Support: Equation of Motion, Pressures, Volumes, and Flow
Rolf D. Hubmayr, M.D.

8:30  Patient-Ventilator Interaction: Physiologic Changes Secondary to Mechanical Ventilation
John J. Marini, M.D.

9:00  Modes: Pressure vs. Flow Regulation
Neil R. MacIntyre Jr., M.D.

9:30  Refreshment Break and Exhibits

10:00 – 11:30  Breakout Sessions: Intensive Tutorials, Case Discussions, Introductory Workshops

Intensive Tutorials
Select ONE of these sessions (90 minutes):
1. Open Lung Strategy in 2019 –Pros & Cons
   John J. Marini, M.D. and Marcelo Amato M.D.

2. Advanced Options and Non-standard Modes
   Richard Branson, MSc, R.R.T.

3. Pragmatics of Implementing Mechanical Ventilation
   Denzil R. Hill, M.D.

4. Ventilator Waveform Analysis and Asynchrony
   Steven R. Holets, R.R.T., L.R.T.

OR select TWO of the following (45 minutes each):

Case Discussions
5. Refractory Hypoxemia –A Systematic Approach
   Richard A. Oeckler, M.D., Ph.D


Introductory Workshops

9. Ventilation Adjuncts – Tubes, Aerosols and Clearance
   Bhargavi Gali, M.D.

10. Setting PEEP and Bedside Assessment of Lung Recruitability – Gustavo A. Cortes Puentes, M.D.

11:30  Lunch and Exhibits

Lectures: Monitoring During Mechanical Ventilation

12:30  Imaging Technology in Hypoxemic Respiratory Failure: Ultrasound, Computed Tomography and Electrical Impedance Tomography – Laurent J. Brochard, M.D.

1:00  Bedside Pulmonary Mechanics: Measurement and Interpretation – Rolf D. Hubmayr, R.R.T.

1:30  Heart-Lung Interactions: Hemodynamics Monitoring in ARDS – John J. Marini, M.D.

2:00  Refreshment Break and Exhibits

2:30 – 4:00  Breakout Sessions: Intensive Tutorials, Case Discussions, Introductory Workshops

Intensive Tutorials
Select ONE of these sessions (90 minutes):
1. Mechanical Ventilation Guided by Esophageal Pressure
   James E. Baker, R.R.T., L.R.T. and Alexander B. Adams, R.R.T., MPH

2. Monitoring Diaphragmatic Activity and Respiratory Efforts
   Laurent J. Brochard, M.D.


OR select TWO of the following (45 minutes each):

Case Discussions
5. Managing the obese patient: Obesity and Other Disorders of the Chest Wall – David J. Dries, MSE, M.D.

6. Integration of Pulmonary Mechanics –Transpulmonary and Airway Driving Pressure – Richard A. Oeckler, M.D., Ph.D

7. Unilateral and Asymmetrical Lung Injury – Gustavo A. Cortes Puentes, M.D.

Introductory Workshops


10. Alternative Ventilator Strategies – Richard Branson, MSc, R.R.T.

4:00  Get to Know the Experts- Q&A – Richard A. Oeckler, M.D., Ph.D and Gustavo A. Cortes Puentes, M.D.

4:30  Adjourn
Day 2 – Friday, October 11, 2019

7:15  Continental Breakfast

Lectures: Hypoxia

8:00  Managing the Lungs & Heart: Ventilator Settings to Optimize Oxygen Delivery – Richard A. Ockler, M.D., Ph.D.

8:30  Open Lung Strategies Today: A Review of the Evidence and Clinical Application in ARDS – Marcello Amato, M.D.

9:00  Extra-Corporeal Life Support: When to Start, When to Stop? - Michael Quintel, M.D., Ph.D

9:30  Refreshment Break and Exhibits

10:00 – 11:30 Breakout Sessions: Intensive Tutorials, Case Discussions, Introductory Workshops

Intensive Tutorials
Select ONE of these sessions (90 minutes):
1. Open Lung Strategy in 2019: Rationale and Demonstration – Marcello Amato, M.D.
3. Pragmatics of Implementing Mechanical Ventilation – Denzil R. Hill, M.D.

OR Select TWO of the following (45 minutes each):

Case Discussions
6. Inability to Ventilate – Neuromuscular Problems – Bernardo J. Selim, M.D.

Introductory Workshops
10. Setting PEEP and Bedside Assessment of Lung Recruitability – Gustavo A. Cortes Puentes, M.D.

11:30  Lunch and Exhibits

Lectures: Ventilation

12:30  Liberation from Mechanical Ventilation – Robert M. Kacmarek, Ph.D, R.R.T.
1:00  Non-Invasive Ventilation: Principles and Decisions – Peter C. Gay, M.D.
1:30  Ventilating the Obstructed Patient – Neil R. MacIntyre Jr., M.D.
2:00  High Flow Nasal Cannula for Whom? – Dean R. Hess, Ph.D, R.R.T.
2:30  Refreshment Break and Exhibits

3:00 – 4:30 Breakout Sessions: Intensive Tutorials, Case Discussions, Introductory Workshops

Intensive Tutorials
Select ONE of these sessions (90 minutes):
2. Mechanical Ventilation in Asthma and COPD – John J. Marini, M.D.

OR Select TWO of the following (45 minutes each):

Case Discussions
5. Managing the Obese Patient: Obesity and Other Disorders of the Chest Wall – David J. Dries, MSE, M.D.
6. Integration of Pulmonary Mechanics – Transpulmonary and Airway Driving Pressures – Laurent J. Brochard, M.D.
7. Unilateral and Asymmetrical Lung Injury – Gustavo A. Cortes Puentes, M.D.

Introductory Workshops
8. Controlled Vs. Spontaneous Ventilation – Neil R. MacIntyre Jr., M.D.
10. Advanced Options and Alternative Modes – Richard Branson, MSc, R.R.T.

4:30  Get to Know the Experts- Q&A – Richard A. Ockler, M.D., Ph.D, John J. Marini, M.D. and Gustavo A. Cortes Puentes, M.D.

5:00  Adjourn
## Day 3 – Saturday, October 12, 2019

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<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Speaker(s)</th>
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<tbody>
<tr>
<td>7:15</td>
<td>Continental Breakfast</td>
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<tr>
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<td><strong>Master Class Series: Advances in Respiratory Failure Management</strong></td>
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<td>8:00</td>
<td>Positioning and the Compromised Respiratory System – Who gets to be proned and how often?</td>
<td>Gustavo A. Cortes Puentes, M.D.</td>
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<tr>
<td>8:30</td>
<td>Respiratory Efforts in Hypoxemic Respiratory Failure – Is Dyssynchrony all that important?</td>
<td>Laurent J. Brochard, M.D.</td>
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<td>9:00</td>
<td>Current Perspective on the Open Lung Strategy – Should we adopt “Open Lung” approach for all?</td>
<td>Marcello Amato, M.D.</td>
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<td>9:30</td>
<td>Refreshment Break and Exhibits</td>
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<tr>
<td>10:00</td>
<td>Mechanical Power and Positive End-Expiratory Pressure – What is the real mechanical cause of VILI?</td>
<td>John J. Marini, M.D.</td>
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<td>11:00</td>
<td>The Near Future of Ventilatory Support</td>
<td>Richard A. Oeckler, M.D., Ph.D</td>
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<td>11:30</td>
<td>Pros &amp; Cons Summary Debate</td>
<td>Alice Gallo De Moraes, M.D. and Steven R. Holets, R.R.T.</td>
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<tr>
<td>12:30</td>
<td>Adjourn</td>
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