1ST PAN-ARAB CONFERENCE OF THE
WORLD FEDERATION
OF INTENSIVE AND CRITICAL CARE SOCIETIES

THE 20th INTERNATIONAL
IPACCIMS PAN ARAB
CRITICAL CARE
MEDICINE SOCIETY CONFERENCE

WORKSHOP

MECHANICAL VENTILATION – FROM PHYSIOLOGY TO CLINICAL PRACTICE

Thomas **Piraino**

Lorenzo **DelSorbo**

Martin **Urner**

Mujahid **Albusaidi**

31 JANUARY 2025

09:00 AM
17:00 PM

GRAND
HYATT HOTEL

5 CME POINTS

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WORKSHOP | MECHANICAL VENTILATION – FROM PHYSIOLOGY TO CLINICAL PRACTICE

PREREQUISITES:

- Participants should have a foundational knowledge of respiratory physiology and the principles of mechanical ventilation. Prior
- experience managing patients on ventilators is recommended, as the workshop will build on these basics to focus on advanced
- strategies and clinical applications.

TARGET AUDIENCE:

- This workshop is designed for healthcare professionals involved in the management of mechanically ventilated patients, including
- intensivists, pulmonologists, respiratory therapists, critical care nurses, and advanced practice providers. It is also suitable for medical residents, fellows, and students specializing in critical care or respiratory medicine.

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WORKSHOP TIMETABLE

Time	Session Title	Objectives	Presenter
9:00-9:15	**Welcome and Introductions**		
9:15-9:45	**Non-Invasive Respiratory Support**	To provide an overview of non-invasive respiratory support in critically ill patients, to prevent the need for mechanical ventilation, highlighting key modalities, indications, benefits, and potential challenges, with a focus on optimizing patient outcomes while minimizing complications and understanding when to escalate care.	Lorenzo Del Sorbo
9:50-10:20	**Respiratory System Mechanics and the Equation of Motion**	To explain the fundamentals of respiratory system mechanics and the equation of motion, emphasizing their clinical relevance in understanding ventilatory support, assessing patient-ventilator interactions, and guiding tailored respiratory management strategies.	Thomas Piraino
10:25-10:40	**Break**		
10:40-11:10	**Lung Protective Ventilation: Current practice and future direction**	To explore the principles of lung-protective ventilation, review current practices in its application, and discuss emerging strategies and future directions to enhance outcomes in patients with acute respiratory failure.	Martin Urner
11:15-12:15	**Advanced Monitoring during Mechanical Ventilation (20 min each)**		
	Esophageal Pressure Measurements	To introduce esophageal pressure (Pes) measurements as a surrogate for pleural pressure during mechanical ventilation, emphasizing their role in optimizing ventilator settings and preventing lung injury.	Lorenzo Del Sorbo
	Electrical Impedance Tomography	To introduce electrical impedance tomography (EIT) as a bedside imaging tool for real-time monitoring distribution of ventilation. Discuss principles of EIT, proper setup and interpretation of regional ventilation distribution. Clinical applications, such as optimizing PEEP and detecting lung overdistension or collapse, will be highlighted alongside the technique's benefits and limitations.	Thomas Piraino
	Effort and Drive: POCC and P0.1	To introduce effort and drive assessments during mechanical ventilation, focusing on occlusion pressure (POCC) and P0.1 as measures of respiratory drive and neuromuscular function. It will explain the principles behind these parameters, their measurement techniques, and their clinical significance.	Mujahid Al Busaidi
12:15-13:00	**Lunch**		
13:00-13:30	**Recognizing and Correcting Asynchrony**	To describe recognizing and correcting patient-ventilator asynchrony. It will cover various types of asynchrony, and their clinical implications. Key strategies for identification, including waveform analysis and clinical observation, will be discussed.	Thomas Piraino
13:30-14:15	**Interactive Session on Asynchrony**	This interactive session will engage participants in identifying and managing patient-ventilator asynchrony through real-world clinical scenarios. Participants will analyze ventilator waveforms to recognize common types of asynchrony, and discuss their physiological implications.	Thomas Piraino
14:45-15:00	**Break**		
15:15-15:45	**Proportional Modes: PAV+ And NAVA**	This lecture will explore the principles of Proportional Assist Ventilation (PAV+) and Neurally Adjusted Ventilatory Assist (NAVA), focusing on their ability to enhance patient-ventilator synchrony, reduce work of breathing, and improve outcomes in appropriate clinical scenarios.	Thomas Piraino
15:50-16:20	**Weaning vs Liberation**	This session will clarify the difference between weaning and liberation, emphasizing readiness for spontaneous breathing trials, criteria for successful transition, and strategies to support patients in moving from mechanical ventilation to independent breathing.	Mujahid Al Busaidi
16:25-16:55	**Strategies for managing the difficult to wean patient**	Participants will learn to identify factors complicating weaning and apply evidence-based strategies, including multidisciplinary approaches, to manage patients with prolonged weaning challenges and improve outcomes.	Thomas Piraino
17:00	**Closing remarks**		