



# FIRST ANNUAL



## MATERNAL CRITICAL CARE

2023 Comprehensive Review  
in Maternal Critical Care

April 14-15, 2023

The Draftsman Hotel, Charlottesville, VA

In-Person and Virtual Attendance Options

### COLLABORATIVELY SPONSORED BY

- Department of Anesthesiology
- Department of Obstetrics and Gynecology
- Department of Internal Medicine

The distinguished faculty is comprised of renowned experts selected to provide an interactive, multidisciplinary, and interprofessional educational program.

### COURSE DIRECTORS:

Dr. Mohamed Tiourine, MD, UVA, Department of Anesthesiology  
Michelle F. Dawson, MSN, AGACNP-BC, RN

PROGRAM MANAGER: Erica Ford, M.Ed



Provided by the University of Virginia  
School of Medicine and School of Nursing

# Course Description

**As a medical community,** we were acutely faced with the implications of critical illness on maternal outcomes, pregnancy progression and fetal wellbeing when the COVID-19 pandemic taxed our knowledge, systems, and readiness to care for this complex specialty population. In this two-day course, we will provide the learner with a comprehensive review of maternal critical illness. Developed by a multidisciplinary team of experts in the fields of Obstetrics,

Maternal Fetal Medicine, Obstetric Anesthesiology, Internal Medicine and Critical Care Medicine, this conference will promote a team-based approach on maternal critical care topics using evidenced-based learning techniques incorporating adult learning theory.

The main sessions will present an overview of maternal morbidity and mortality, common and unique obstetric emergencies, and how to

build bridges between labor and delivery and the critical care units. Participants will have the opportunity to demonstrate clinical application during case-based teamwork activities and glean practical tips from expert petitioners. This course is designed for physicians, physician assistants, advanced practice nurses, ICU nurses, Labor and Delivery nurses, pharmacists, and all other healthcare providers with an interest in maternal critical care.

## Desired Outcomes

At the end of the educational activity, learners will be able to:

- ◆ Describe the epidemiology of maternal morbidity and mortality in the United States.
- ◆ Explain key methods of hemodynamic monitoring and end-points of resuscitation in the decompensating pregnant patient.
- ◆ Compare the key hemodynamic principles and management of various shock states in the pregnant patient including obstructive, cardiogenic, and distributive shock.
- ◆ Identify key risk factors and describe key management principles of acute cardiac emergencies in the pregnant patient including acute MI and aortic dissections.
- ◆ Appraise normal versus abnormal findings in point-of-care ultrasound (POCUS) exams.
- ◆ Incorporate the benefits and methods of maternal critical care into fellowship training.
- ◆ Distinguish the risk factors and common presentation of embolic phenomenon.
- ◆ Articulate the role of VA-ECMO in the management of embolisms.
- ◆ Differentiate key differences in ACLS protocol including emergency cesarean delivery and the various roles of VA-ECMO.
- ◆ Compare normal versus abnormal findings in transthoracic echocardiography exams.
- ◆ Describe the clinical features of pre-eclampsia, eclampsia, and HELLP syndrome, and the diagnosis and management of each.
- ◆ Recognize common pregnancy-related complications and the associated management techniques for hemorrhage/DIC, amniotic fluid embolism, placental abruption and rupture.
- ◆ Assess the unique pathophysiology and management of airway, pulmonary physiology and mechanical ventilation during pregnancy.
- ◆ Evaluate key physiologic principles and associated management of respiratory failure and severe ARDS in pregnancy, and the role of VV-ECMO for the pregnant patient.
- ◆ Classify the physiologic and hormonal affects that place pregnant patients at risk of subarachnoid hemorrhage and stroke.
- ◆ Develop goals and objectives of maternal critical care between Labor & Delivery and the Intensive Care Unit teams.
- ◆ Apply a stepwise approach to engagement and development of a maternal critical care ICU/team.
- ◆ Engage multiple stakeholders in development and implantation of a maternal critical care team.

# AGENDA

Friday, April 14, 2023

## TIME

7:00 – 7:45  
7:45 – 8:00

## TOPIC

Breakfast (Provided) / Exhibitor Hall / Registration  
Opening Remarks and Welcome

## PRESENTER

Dr. Peggy McNaull, Chair, Dept. of Anesthesiology  
Dr. Paola Gehrig, Chair, Dept. Obstetrics & Gynecology  
Dr. Mitchell Rosner, Chair, Dept of Internal Medicine

### SESSION 1

#### Introduction to Maternal Critical Care

8:00 – 8:25 By the Numbers: Maternal Mortality and Morbidity  
8:25 – 8:50 The Devil is in the Details: A Physiology Overview of the Pregnant Mother  
8:50 – 9:15 Drugs and Drips: Pharmacological Considerations during Maternal Critical Illness  
9:15 – 9:40 The Other Patient: The Warning Signs of Fetal Distress  
9:40 – 10:00 Interactive Panel: Q & A  
10:00 – 10:15 COFFEE BREAK

Mohamed Tiouririne, MD  
Christian Chisholm, MD  
Rebecca Rieck, MD  
Christina Hayhurst, MD  
Christopher Ennen, MD  
Tiouririne, Chisholm, Ennen, Hayhurst, Rieck  
Meet/Greet with Exhibitors

### SESSION 2

#### Obstetric Emergencies

10:15 – 10:40 Call the Blood Bank: An Overview of Obstetric Hemorrhage  
10:40 – 11:05 From Bad to Worse: Obstructive Shock  
11:05 – 11:30 The Exception(s) to the Rule: Sepsis in Pregnancy:  
11:30 – 11:55 Let's Talk Endocrine: Insulin Drips, Pumps, and Other Emergencies  
11:55 – 12:15 Interactive Panel  
12:15 – 1:15 LUNCH (Provided)

Rebecca Rieck, MD  
Jessica Sheeran, MD  
Venkat Mangunta, MD  
Mohamed Tiouririne, MD  
Jen Kirby, MD  
Rieck, Sheeran, Mangunta, Tiouririne, Kirby  
Meet/Greet with Exhibitors

### SESSION 3

#### Pulmonary

1:15 – 1:40 When It's Time to Tube: Airway Management  
1:40 – 2:05 Protecting the RV: Let's Talk Pulmonary Hypertension  
2:05 – 2:30 Under Pressure: Ventilator Mechanics in Pregnancy  
2:30 – 2:55 Desperate Measures: Management Strategies for Severe Respiratory Failure  
2:55 – 3:15 Interactive Panel: Q & A  
3:15 – 3:30 BREAK

Christina Hayhurst, MD  
Ashley Garneau, MD  
Andrew Mihalek, MD  
Kyle Enfield, MD  
Kim Boswell, MD  
Hayhurst, Garneau, Mihalek, Enfield, Boswell

### SESSION 4

#### Pulling It All Together: An Expert Approach

3:30 – 4:00 The Time is Now: Incorporating Point of Care Ultrasounds in Labor & Delivery Units  
4:00 – 5:00 Interactive Sessions: Cases / Q&A Interactive with Panel  
5:15 – 5:30 Closing Remarks

Mohamed Tiouririne, MD  
Sachin Mehta, MD  
Enfield, Philips, Hayhurst, Chisholm  
Mohamed Tiouririne, MD

Saturday, April 15, 2023

7:00 – 8:00

BREAKFAST (Provided)

### SESSION 1

#### Neuro-Obstetrics

8:00 – 8:25 The ABC's of Neuro-Obstetric Critical Care  
8:25 – 8:50 The Patient is Seizing: Understanding Preeclampsia and Its Management  
8:50 – 9:15 HELLIP and Mimickers  
9:15 – 9:40 Oh, My Head: Acute Ischemic and Non-Ischemic Stroke  
9:40 – 10:00 Interactive Panel: Q & A  
10:00 – 10:15 COFFEE BREAK

Kim Boswell, MD  
Nadia Lunardi, MD  
Christian Chisholm, MD  
Christopher Ennen, MD  
Bhiken Naik, MD  
Naik, Lunardi, Chisholm, Ennen  
Meet/Greet with Exhibitors

### SESSION 2

#### Heart Aches During Pregnancy

10:15 – 10:40 Just One Part of the Puzzle: Principles of Hemodynamic Monitoring  
10:40 – 11:05 When the Heart Can't Keep Up: Cardiomyopathy & Heart Failure  
11:05 – 11:30 When Heartburn is Something Else: Acute Cardiac Emergencies:  
11:30 – 11:55 Baby Blues: Management of Congenital Heart Diseases  
11:55 – 12:15 Interactive Panel: Q & A  
12:15 – 1:15 LUNCH (Provided)

Venkat Mangunta, MD  
Mohamed Tiouririne, MD  
Steven Philips, MD  
Allison Lankford, MD  
Karen Rheuban, MD  
Mangunta, Tiouririne, Philips, Rheuban, Lankford  
Meet/Greet with Exhibitors

### SESSION 3

#### Collaboration is Key

1:15 – 1:40 The Golden Hour: A Case-Based Approach on Trauma in Pregnancy  
1:40 – 2:05 Building Bridges: Team-Based Maternal Critical Care  
2:05 – 2:30 You Need a Plan: Best Practices for Navigating Multiple Stakeholders  
2:30 – 2:55 Start Early: Incorporating Maternal Critical Care into Fellowship Training  
2:55 – 3:15 Interactive Panel  
2:45 – 3:00 BREAK

Allison Lankford, MD  
Molly Flannagan, MD  
Carey Casassa, RN  
Mohamed Tiouririne, MD  
Christopher Ennen, MD  
Lankford, Flannagan, Saunders, Tiouririne, Ennen

### SESSION 4

#### Bringing it all together

3:30 – 4:15 Team-Based Cases with Panel Discussion  
4:15 – 5:00 Roundtable on Advancing Maternal Critical Care – Panel  
5:00 – 5:15 Closing Remarks

Mohamed Tiouririne, MD  
Tiouririne, Dawson, Ennen, Rieck,  
Chisholm, Lunardi, Tiouririne, Naik, Dawson  
Mohamed Tiouririne, MD

## ACCREDITATION & DESIGNATION STATEMENT



In support of improving patient care, the University of Virginia School of Medicine and School of Nursing is jointly accredited by the Accreditation Council for Continuing Medical Education (ACCME), the Accreditation Council for Pharmacy Education (ACPE), and the American Nurses Credentialing Center (ANCC), to provide continuing education for the healthcare team.

This activity was planned by and for the healthcare team, and learners will receive **15** Interprofessional Continuing Education (IPCE) credits for learning and change.

The University of Virginia School of Medicine and School of Nursing designates this live activity for a maximum of **15 AMA PRA Category 1 Credits™**. Physicians should claim only the credit commensurate

with the extent of their participation in the activity.

The University of Virginia School of Medicine and School of Nursing awards **15 contact hours** for nurses who participate in this educational activity and complete the post activity evaluation.

The University of Virginia School of Medicine and School of Nursing awards **[15] hours of participation** (consistent with the designated number of AMA PRA Category 1 Credit™ or ANCC contact hours) to a participant who successfully completes this educational activity.

The University of Virginia School of Medicine and School of Nursing maintains a record of participation for six (6) years.

Credit will be uploaded to CPE Monitor within 60 days of the end date of the activity. A certificate from our learning portal validates only learner participation. It will be the responsibility of the pharmacist or pharmacy technician to provide the correct information in order to receive credit for participating in this CE activity. Please log into your NABP Profile to see your credit recorded and print your official transcript.

The University of Virginia School of Medicine and School of Nursing has been authorized by the American Academy of PAs (AAPA) to award AAPA Category 1 CME credit for activities planned in accordance with AAPA CME Criteria.

This activity is designated for 15 AAPA Category 1 CME credits. PAs should only claim credit commensurate with the extent of their participation.

Successful completion of this activity, planned in accordance with the needed MOC requirements, enables the participant to earn **MOC Part II Self-assessment** points equivalent to the amount of **AMA PRA Category 1™** claimed for the activity, through the American Board of Medical Specialties (ABMS) and Accreditation Council for Continuing Medical Education (ACCME®) joint initiative to create a wide array of Maintenance of Certification (MOC) Activities. The awarded transcript provides for both **AMA PRA Category 1™** and MOC II Self-assessment credit for the following participating boards:

- American Board of Anesthesiology (ABA)
- American Board of Internal Medicine (ABIM)
- American Board of Pediatrics (ABP)
- American Board of Surgery (ABS)

NOTE: It is the accredited provider's responsibility to submit learner completion information to the ACCME for the purpose of granting MOC II Self-assessment credit for the above boards. For learners wishing to receive credit through a Member Board not included above, please refer directly to your Member Board's MOC Part II Lifelong Learning and Self-Assessment Program Requirements.

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## REGISTRATION

Registration and payment are available at [www.cmevillage.com](http://www.cmevillage.com), (visit our Learning Portal or Upcoming Events). Registration will close midnight on **April 9, 2023. NO WALK IN REGISTRATION.** The course syllabus will be available online only the week of the conference until 30 days after the conference.

PLEASE NOTE: Policies on cancellation, payment methods and accommodation requests can be found on our website under FAQs. Additional questions, please contact [uvacme@virginia.edu](mailto:uvacme@virginia.edu) or 434-924-5310.

	Until 3/11	3/12-4/9
Physicians	\$550.00	\$650.00
Other Healthcare Providers	\$425.00	\$525.00
Residents/Fellows	\$100.00	\$100.00

Event recordings will be available for 30 days after the event to registered attendees.

## RESERVATIONS

### HOTEL ACCOMMODATIONS

Rooms have been reserved at The Draftsman Hotel in Charlottesville at a discounted rate of \$209/night on Wednesday, April 13th – April 16th and will be available on a first come, first served basis. Attendees will need to make their own reservations with the group name “2023 Maternal Care Conference” by using the link below or calling (434)984-8000. All reservations must be made by **Sunday, March 12, 2023**, after which time rooms will be released and can't be guaranteed to be available.

<https://www.marriott.com/event-reservations/reservation-link.mi?id=1666800123267&key=GRP&app=resvlink>

**PARKING...** at The Draftsman is valet only at a cost of \$18/day.

### CONTACT INFORMATION

Erica Ford, CE Program Manager, Office of Continuing Medical Education | [Erm4d@uvahealth.org](mailto:Erm4d@uvahealth.org) | 434-924-5310

## GUEST SPEAKERS

### Kimberly A. Boswell, MD, FACEP

Assistant Professor  
Department of Emergency Medicine  
University of Maryland School of Medicine  
R Adams Cowley Shock Trauma Center  
University of Maryland Medical Center

### Christina Hayhurst, MD

Associate Professor  
Anesthesiology Critical Care Medicine  
Fellowship Director Anesthesiology  
Critical Care Medicine  
Director Clinical Operations,  
Anesthesiology Critical Care Medicine  
Vanderbilt University

### Allison Lankford, MD

Assistant Professor  
Department of Obstetrics Gynecology  
and Reproductive Sciences  
Division of Maternal Fetal Medicine  
University of Maryland Medical Center  
Critical Care Medicine  
R Adams Cowley Shock Trauma Center

## UVA FACULTY \*Denotes Planning Committee Member

### Mohamed Tiouririne, MD\*

Professor  
Department of Anesthesiology and OBGYN  
Division of Obstetric Anesthesiology and  
Critical Care Medicine  
Medical Director of Surgical Admissions  
Suite and Post Anesthesia Care Unit

### Michelle F. Dawson, MSN, AGACNP-BC, RN\*

Critical Care Nurse Practitioner, Thoracic  
and Cardiovascular ICU  
Director, Advanced Practice Provider  
Fellowship Program

### Christopher Ennen, MD\*

Assistant Professor of Obstetrics and  
Gynecology  
Co-Interim Division Director  
Director for Maternal-Fetal Medicine  
Fellowship Program

### Rebecca Rieck, MD, FACOG\*

Assistant Professor, Maternal Fetal  
Medicine  
Department of Obstetrics and Gynecology

### Matthew P. Robertson, MSN, RN, ACNP-BC, CCRN\*

Critical Care Nurse Practitioner  
Surgical Trauma Intensive Care  
Lead Advanced Practice Provider - Surgery

### Carey Casassa, RN, BSN, RNC-OB\*

Nurse

### Alexis South, PA-C\*

Physician Assistant  
Critical Care Medicine

### Suzie Telfer, PharmD\*

Critical Care Clinical Pharmacist

### Christian Chisholm, MD

Professor of Obstetrics and Gynecology  
Co-Interim Division Director  
Medical Director Inpatient Obstetrics and  
OB Ultrasound  
Vice-Chair for Medical Education

### Kyle Enfield, MD

Associate Professor of Medicine  
Division of Pulmonary and Critical Care  
Medicine  
Medical Director Medical Intensive Care  
Unit  
PCCM Division Quality Officer

### Molly Flannagan, MD, FACS

Assistant Professor of Surgery  
General Surgery Associate Program  
Director  
Department of Surgery  
Section of Acute Care Surgery

### Ashley W. Garneau, MD

Assistant Professor of Anesthesiology  
Division of Obstetrics

### Jen Kirby, MD, PhD

Associate Professor of Medicine  
Division of Endocrinology and Metabolism  
Associate Division Chief for Clinical Affairs

### Nadia Lunardi, MD, PhD

Associate Professor  
Department of Anesthesiology  
Division of Critical Care

### Venkat Mangunta, MD

Assistant Professor of Anesthesiology  
Critical Care and Cardiothoracic Division

### Sachin H. Mehta, MD

Associate Professor of Anesthesiology  
Division Chief of Obstetric Anesthesiology  
Senior Editor on the American Board of  
Anesthesiology Examination Committee

### Andrew Mihalek, MD

Associate Professor of Internal Medicine  
Division of Pulmonary and Critical Care  
Medicine  
Co-Director, UVA Pulmonary Hypertension  
Clinic  
Medical Director, UVA CTEPH Program

### Bhiken Ishwarlal Naik, MD

Associate Professor of Anesthesiology and  
Neurological Surgery  
Associate Medical Director of the Nerancy  
Neuroscience Intensive Care Unit  
Vice-Chair of Clinical Research in  
Anesthesiology

### Steven Phillips, MD, PhD

Assistant Professor of Medicine  
Division of Cardiovascular Medicine

### Karen Rheuban, MD

Professor of Pediatrics  
Division of Cardiology and Pediatrics  
Senior Associate Dean for Continuing  
Medical Education and External Affairs  
Co-founder and Director of the UVA Center  
for Tele-health

### Jessica Sheeran, MD

Associate Professor of Anesthesiology  
Division of Obstetrics  
Associate Director of Anesthesia Clerkship