# Day One

<table>
<thead>
<tr>
<th>Schedule</th>
<th>Session</th>
<th>Learning Format</th>
<th>Learning Objectives</th>
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</thead>
<tbody>
<tr>
<td>7:00 AM - 7:30 AM</td>
<td>Registration and Continental Breakfast</td>
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<tr>
<td>7:30 AM - 8:15 AM</td>
<td>Pretest and Introduction</td>
<td></td>
<td>Luis E Llerena, MD, FACS - Course Director</td>
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<td>Assistant Professor of Surgery</td>
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<td>USF Health, Morsani College of Medicine, USF Health, Tampa, FL</td>
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<td>Medical Director, Surgical and Interventional Training, Center for Advanced Medical</td>
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<td>Learning and Simulation (CAMLs), Tampa, FL</td>
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<tr>
<td>8:15 AM - 8:45 AM</td>
<td>Recognition and Assessment of Critically Ill Patient</td>
<td>Lecture</td>
<td>• Verbalize the importance of early identification of patients at risk for life-</td>
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<td>threatening illness or injury</td>
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<td>• List the early signs and symptoms of critical illness</td>
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<td>• Discuss the initial assessment and early treatment of the critically ill or</td>
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<td>injured patient</td>
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<td>8:45 AM - 9:15 AM</td>
<td>Diagnosis and Management of Acute Respiratory Failure</td>
<td>Lecture</td>
<td>• Define and classify acute respiratory failure</td>
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<td>• Describe the pathophysiology and manifestations of acute respiratory failure</td>
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<td>• Discuss oxygen supplementation strategies in acute respiratory failure</td>
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<td>9:15 AM - 9:45 AM</td>
<td>Mechanical Ventilation I</td>
<td>Lecture</td>
<td>• Identify the guidelines for initial ventilator management that apply to specific</td>
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<td>clinical situations</td>
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<td>• Identify patients likely to benefit from resuscitation</td>
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<td>• List the steps for delegating responsibilities</td>
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<td>• Discuss treatment issues in cardiopulmonary arrest</td>
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### Mechanical Ventilation II (Lecture)
- Describe interactions between ventilator parameters and modifications needed to avoid harmful effects of mechanical ventilation
- Discuss guidelines for initial ventilator management that apply to specific clinical situations

### Break

### Skills
- **Airway Management (Intubation, BVM)**
  - Identify alternate solutions for the management of intubation of a difficult airway.
  - Understand the need to administer oxygen to critically ill patients.
  - Recognize and treat respiratory failure.

- **Assessment and Recognition (Tension pneumothorax, Anaphylaxis, Atrial Fibrillation)**
  - Identify and rapidly treat life-threatening events.
  - Describe the ABCDE approach to assessment.
  - Describe why treatment and search for diagnoses should occur simultaneously.
  - Recognize the early signs and symptoms of critical illness.
  - Describe the manifestation and treatment of acute respiratory failure.
  - Explain the acid-base imbalance in a critically ill patient.

- **Ventilator (Initial Settings and NPPV)**
  - Describe the indications for the initiation of mechanical ventilation.
  - Describe the differences between mandatory and spontaneous modes of mechanical ventilation.
  - Discuss the initiation of the ARDSnet ventilation strategies in the care of a patient with acute respiratory distress syndrome (ARDS)
  - Describe how ventilator settings should be adjusted to minimize auto-positive end-expiratory pressure (auto-PEEP) [or intrinsic PEEP] in the management of the patient with severe bronchospasm and air trapping.
  - List diagnoses for which NPPV may be an appropriate therapy.
  - List characteristics of a patient who is a good candidate for NPPV.
  - Discuss the contraindications to NPPV.

### Lunch and review pretest

### Special Considerations (Lecture)
- Outline the diagnosis and management of pulmonary embolism
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<tr>
<th>Time</th>
<th>Session</th>
<th>Lecture</th>
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<tbody>
<tr>
<td>1:45 PM - 2:15 PM</td>
<td>Life Threatening Electrolyte and Metabolic Disturbances</td>
<td>List steps of the emergent management of severe electrolyte disturbances</td>
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<tr>
<td>2:15 PM - 2:45 PM</td>
<td>Life Threatening Infections</td>
<td>List risk factors for development of infection</td>
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<td>2:45 PM – 3:15 PM</td>
<td>Critical Care in Pregnancy</td>
<td>Describe physiologic alterations in pregnancy</td>
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<tr>
<td>3:15 PM</td>
<td>Adjourn</td>
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## Fundamentals of Critical Care Support

### Day Two

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<tr>
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| 7:30 AM-8:00 AM| Monitoring Blood Flow, Oxygenation, & Acid-Base Balance Lecture | • Outline the determinants of oxygen balance  
• Identify principles and limitations of techniques for monitoring oxygen balance  
• Explain the use of acid-base status as a monitor in the seriously ill patient |
| 8:00 AM-8:30 AM| Diagnosis & Management of Shock Lecture      | • Identify the main categories of shock  
• Discuss goals of resuscitation in shock  
• Summarize principles of shock management  
• Describe effects of vasopressor and inotropic agents  
• Discuss the differential diagnosis of oliguria |
| 8:30 AM-9:00 AM| Basic Trauma and Burn Support Lecture        | • Prioritize and initiate assessment of the traumatized patient  
• Utilize radiography in identifying significant traumatic injury  
• Identify and respond to changes in status of the injured patient  
• Discuss the steps of early burn management |
| 9:00 AM-9:30 AM| Neurologic Support Lecture                   | • Discuss the principles of primary and secondary brain insult and the common mechanisms of neuronal injury  
• List general treatments that are common in brain injury  
• Discuss specific management principles and options for selected pathophysiologic conditions |
| 9:30 AM-10:00 AM| Ethics Lecture                              | • Discuss ethical dilemmas that involve withdrawal of life support in critically ill patients  
• Define types of advance directives used to guide care  
• Discuss examples that outline the decision-making process used in medical ethics |
| 10:00 AM-10:15 AM| Break                                      |                                                                                    |
| 10:15 AM-12:30 PM| Skills Sessions (Faculty and Learners): Skill Station | • Initiate treatment of life-threatening traumatic injury  
• Identify and initiate treatment of the patient in septic vs hypovolemic shock  
• Verbalize and initiate accurate ventilator settings identified in the case study |
• Discuss the goals of resuscitation in shock.
• Review methods to medically lower intracranial pressure.
• Verbalize the clinical and diagnostic assessment of the brain-injured patient.
• Discuss specific management principles and options for neurological injuries.
• Utilize the strategy of using a one-to-one ratio of red blood cells-to-fresh-frozen plasma to resuscitate hemorrhagic shock.
• List procedures for the management of hemorrhagic shock.

• Trauma/Burns – Skill Station

• Discuss the goals of resuscitation in shock.
• Describe methods to medically lower intracranial pressure.
• Verbalize the clinical and diagnostic assessment of the brain-injured patient.
• Discuss specific management principles and options for neurological injuries.
• Utilize the strategy of using a one-to-one ratio of red blood cells-to-fresh-frozen plasma to resuscitate hemorrhagic shock.
• List procedures for the management of hemorrhagic shock.

• Mechanical Ventilator and You – Skill Station
  (No CE Credit)

• Select appropriate initial ventilator settings (ventilator prescription). (Physicians only)
• Modify the ventilator prescription in response to pressure changes and arterial blood gas analysis. (Physicians only)
• Discuss the causes of hypotension after intubation and after initiation of ventilation.
• Describe alternatives focused on the improvement of oxygenation in response to the patient with hypoxemia despite administration of high Flo2
• Explain the concept of permissive hypercapnia, as well as relative contraindications to its use.
• Describe indications for and complications of pharmacologic paralysis.

12:30 PM – 1:15 PM  Lunch

1:15 PM–2:30 PM  Post Test

2:30 PM  Adjourn
Fundamental Critical Care Support

About the Course
This course is designed to:
- Better prepare the non-intensivist for the first 24 hours of management of the critically ill patient until transfer or appropriate critical care consultation can be arranged;
- Assist the non-intensivist in dealing with sudden deterioration of the critically ill patient;
- Prepare house staff for ICU coverage;
- Prepare nurses and other critical care practitioners to deal with acute deterioration in the critically ill patient.

Course Director
Luis E Llerena, MD, FACS
Assistant Professor of Surgery
USF Health, Morsani College of Medicine
University of South Florida
Medical Director
Surgical and Interventional Training
Center for Advanced Medical Learning and Simulation (CAMLs)
Tampa, FL

Course Coordinator
Julie M. Underhill, BSN, RN, -BC, CEN
Coordinator, Virtual Patient Care Center (VPCC)
Center for Advanced Medical Learning and Simulation (CAMLs)
Tampa, FL

Physician, ARNP, and PA Learning Objectives
As a result of participating in this activity, the physician, ARNP or PA will be able to:
- Prioritize assessment needs for critically ill and injured patients
- Select appropriate diagnostic tests
- Identify and respond to significant changes in unstable patients
- Recognize and initiate management of acute life threatening conditions
- Determine the need for expert consultation and/or patient transfer

Nursing Learning Objectives
As a result of participating in this activity, the nurse will be able to:
- Prioritize assessment needs for critically ill and injured patients
- Interpret appropriate diagnostic tests
- Identify and respond to significant changes in unstable patients
- Recognize and initiate intervention in acute life threatening conditions
- Recognize the need for expert consultation and/or patient transfer

Pharmacy and Respiratory Therapy Learning Objectives
As a result of participating in this activity, the Pharmacist and Respiratory Therapist will be able to:
- Prioritize appropriate treatment needs for critically ill and injured patients
- Interpret appropriate diagnostic tests
- Respond to significant changes in unstable patients
- Assist in the intervention in acute life threatening conditions
- Recognize the need for expert consultation and/or patient transfer

Competencies to be Addressed:
- Patient Care
- Medical Knowledge
- Practice-based Learning and Improvement
- Systems-based Practice
- Professionalism
Interpersonal and Communication Skills

Target Audience
Non-Intensivist, Hospitalist, Emergency and Trauma Physicians, Nurses, Respiratory Therapists and Pharmacists involved in the stabilization and management the critically ill patient

The Need
Early identification of the patient at risk for life threatening illness makes it easier to manage them appropriately and prevent further deterioration. Many clinical problems, if recognized early, can be managed with simple measures such as supplemental oxygen, respiratory therapy intervention, intravenous fluids or effective analgesia. Early identification of patients in trouble allows clinicians time to identify the main physiological problem, determine its underlying cause and begin treatment. The longer the interval between the onset of an acute illness and the appropriate intervention, the more likely it is that the patient’s condition will deteriorate, even to cardiopulmonary arrest. Studies have demonstrated that physiological deterioration precedes many cardiopulmonary arrests by hours, suggesting that early intervention could prevent the need for resuscitation, admission to the ICU and other sentinel events. The purpose of this activity is to assure the clinical team has the knowledge, skills and abilities to recognize, assess, and rapidly intervene with the deteriorating patient.

Disclosures
Potential Conflicts of Interest:
USF Health endorses the standards of the ACCME, ACPE and ANCC that requires everyone in a position to control the content of accredited educational activity to disclose all financial relationships with commercial interests that are related to the content of the educational activity. All accredited activities must be balanced, independent of commercial bias and promote improvements or quality in healthcare. All recommendations involving clinical medicine must be based on evidence accepted within the medical profession.

A conflict of interest is created when individuals in a position to control the content of an accredited educational activity have a relevant financial relationship with a commercial interest which therefore may bias his/her opinion and teaching. This may include receiving a salary, royalty, intellectual property rights, consulting fee, honoraria, stocks or other financial benefits.

USF Health will identify, review and resolve all conflicts of interest that speakers, authors or planners disclose prior to an educational activity being delivered to learners. Disclosure of a relationship is not intended to suggest or condone bias in any presentation but is made to provide participants with information that might be of potential importance to their evaluation of a presentation. USF Health does not endorse any products or services.

Planning Committee Listing and Potential Conflicts of Interest
Luis E. Llerena, MD, FACS, Course Director None
Julie M. Underhill, BSN, RN-BC, CEN, Nurse Planner and Course Coordinator None
Susan Frye, BSN, MA, Educational Coordinator, USF Health, Continuing Professional Development None
Nikki Campbell, MSN, RN, Lead Nurse Planner, Content Reviewer, and Assistant Director, Virtual Patient Care Center, CAMLS, Tampa, FL None
Marie Chotiner, CME Program Assistant, USF Health, Continuing Professional Development None
Christopher Allen, PharmD, Trauma Center, Tampa General Hospital, Tampa, Florida None
Patti Fredrick, RN, BSN, Content Reviewer and Virtual Patient Care Center Coordinator, CAMLS, Tampa, FL None
Jenny Guido, MD, USF Fellow - Surgery, Tampa, Florida None

Commercial
This activity has been supported by an educational grant from Covidien.
Support

Location
This course is held at CAMLS (The Center for Advanced Medical Learning and Simulation) at 124 S Franklin St, Tampa, Fl 33602.

Fees
The fee for the course is as follows:

- Attending Physicians: $950
- Residents: $700
- All others: $600

Fees include the textbook, handout materials, lectures, skill and simulation sessions, CE credit, meals and refreshments. Individuals successfully completing the course will receive a certificate from Society of Critical Care Management within 30 days of completing the course.

Course Dates and Registration
2014 Courses are as follows (click on the date to register):
- January 27-28, 2014
- March 24-25, 2014
- September 22-23, 2014

Accreditations
Physicians
USF Health is accredited by the Accreditation Council for Continuing Medical Education to provide continuing medical education for physicians.

USF Health designates this Live Activity for a maximum of 11.25 AMA PRA Category 1 Credits™. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

Nurses
USF Health is accredited as a provider of continuing nursing education by the American Nurses Credentialing Center’s Commission on Accreditation.

A maximum of 10.50 contact hours may be earned by learners who successfully complete this continuing nursing education activity.

Pharmacists
USF Health is accredited by the Accreditation Council for Pharmacy Education as a provider of continuing pharmacy education. This practice-based program has been approved for 10.5 contact hours (0.105 CEUs). Universal program number is as follows: 0230-0000-13-145-L01-P.

To receive continuing education credit, a pharmacist must attend the accredited sessions, actively participate in questions and answers, and must return the program evaluation instrument. In order to receive full credit, registrants must register no later than 10 minutes after the start of the meeting and must attend the entire meeting.

Educational Coordinator
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