LEARNING OBJECTIVES

On completion of the chapter, the reader will be able to:

1. Apply the principles of cardiopulmonary physiology to hemodynamic monitoring of the septic shock patient.
2. Compare and contrast methods for assessing intravascular volume status and cardiac function of critically ill patients.
3. List factors affecting blood pressure and cardiac output.
4. Discuss the physiologic basis for lactate and venous oxygen saturation as measures of global perfusion and gastric tonometry, sublingual capnometry, and cardiac function as measures of regional perfusion in the critically ill.
5. Describe the oxygen delivery and consumption relationship as they pertain to perfusion principles and apply to the care of critically ill patients.
6. Describe the effects of catecholamine vasopressors and inotropes on adrenergic receptors and vasopressin on vasopressin receptors and relate these effects to clinical end points.
7. Compare and contrast vasopressors, inotropes, and vasopressin in terms of clinical end points and adverse effects.
8. Describe the concepts of early goal-directed therapy as they apply to resuscitation of septic shock.
10. Formulate a monitoring plan to assess the effects of catecholamine vasopressors, inotropes, and vasopressin on global and regional hemodynamics.
11. Develop a protocol for optimizing oxygen delivery in hypotensive septic shock patients.
12. Evaluate the level of evidence for treatment recommendations for the management of severe sepsis or septic shock.