

## **Kristin Zersen**

### **Acid-Base evaluation in Emergency Room | *Kristin Zersen***

The goal of this lecture is to review the step-by-step approach to traditional acid-base analysis. There will be a short discussion on the physiology of acid-base analysis and the components of acid-base analysis. The focus will be on defining the primary acid-base disturbance and describing the expected compensation. Finally, there will be a discussion on the mechanisms and differentials for each of the four primary acid-base disturbances.

### **Structure and function of the endothelium | *Kristin Zersen***

The goal of this lecture is to discuss the structure and function of the endothelial cell and the endothelial glycocalyx, collectively described as the endothelium. The focus will be on understanding the functions of the endothelium including regulation of coagulation, regulation of vascular /microvascular tone, regulation of leukocyte trafficking, and regulation of fluid movement and vascular permeability. There will be a brief discussion on the implications of a damaged endothelium.

### **Blood Gas, Electrolytes, and Acid-Base Workshop – *Kristin Zersen***

In the first part of this lab, introductory lectures will review arterial blood gas analysis, the step-by-step approach to traditional acid-base analysis, and sodium and potassium disorders. In the second part of the lab, attendees will work through case-based examples of acid-base and electrolyte disorders, assess patient oxygenation and ventilation, develop patient treatment plans, and get feedback from the instructors.