

Alexandra Nectoux

Ultrasonographic assessment in states of shock | *Alexandra Nectoux*

Shock is an inadequate cellular energy production leading to cellular hypoxia and can be due to inadequate arterial oxygen content, inadequate arterial to venous pressure gradient or inadequate cardiac output. Ultrasound helps to distinguish shock states linked to a poor cardiac output and the goals are to:

- Suspect hypovolemic shock using cardiac chambers measurement and large vessels measurement and collapsibility
- Suspect obstructive shock assessing pericardial and pleural spaces
- Suspect cardiogenic shock with signs of congestion and measurements of cardiac chambers and contractility
- Suspect distributive shock excluding other types of shock and looking for signs of anaphylaxis

Leptospirosis: from injury to recovery | *Alexandra Nectoux & Julie Combet-Curt*

Description: *Leptospira* sp. is a bacteria commonly found in Europe that can infect humans, dogs, and cats. Once infected, the patient can develop multiorgan failure. Although its primary tropism is for the kidneys and liver, other organs and systems can also be affected, resulting in severe systemic disease. Each organ's function should be assessed and treated promptly to ensure a better prognosis. This lecture will review the pathophysiology of multiorgan damage caused by leptospirosis, the treatment options available in Europe, and the associated prognosis.

How to assess volume status using POCUS? | *Alexandra Nectoux & Julie Combet-Curt*

Summary of goals: This lecture will provide the clinician with a brief review of the different abnormal volume statuses: hypovolemia versus hypervolemia (or fluid overload) and will introduce the concept of static versus dynamic assessment of volume status. It will emphasize that accurate volume assessment of a patient can improve their medical management and outcomes, as both hypovolemia and fluid overload increase morbidity and mortality. The lecture will primarily focus on a review of how to use cardiac POCUS, assess large vessel sizes and dynamics, and use lung and abdominal POCUS to better evaluate volume status.