Vascular volume physiology: stressed or unstressed?

The classic view of the circulatory system has primarily focused on cardiac output by assessment of the function of the left ventricle. In veterinary medicine, the vast majority of critically ill small animals have normal intrinsic ventricular function, and rather suffer from an insufficiency in venous return. The current presentation will focus on the mean systemic pressure, its impact on venous return and its clinical implication in veterinary emergency and critical care.

Hemodynamic monitoring: old and new tricks

Patients admitted to veterinary intensive care unit (ICU) are often hemodynamically unstable or at risk of becoming unstable. Hemodynamic monitoring is a central component of intensive care medicine, as it brings important information for proper resuscitation. Over the last few decades, hemodynamic monitoring has evolved from physical examination to sophisticated devices providing a plethora of data. The objective of this presentation is to provide an overview of hemodynamic monitoring tools available in veterinary medicine, and to review indications and limitations of each, with a special focus and update on the CVP debate.

Urinary electrolyte monitoring: a different look on renal physiology

The kidney has a crucial role in maintaining the homeostasis from several different perspectives, from clearing of cellular catabolism products, to body fluids and electrolyte content regulation, hemodynamic stability and acid-base equilibrium. Measurements of urinary volumes, electrolyte concentration, pH, osmolality, and, in recent years, biomarkers, have been the key features of the understanding of renal physiology, diagnosis and management of a variety of diseases. The current presentation aims to recall the renal handling of electrolytes, summarize different aspects of the use of urine electrolytes in evaluation of the renal function, and propose a practical use of in critically ill dogs and cats.