How to avoid the imminent CPA

Cardiopulmonary arrest is highly lethal condition with reported survival to discharge rates in dogs and cats of 6-18% (Hofmeister et al 2009, Hoehne et al 2019). Factors contributing to an arrest include the following;

-Patient factors: Severity of illness including severe shock, respiratory distress, seizures.
-Human factors: Failure of pre-procedure planning, insufficient monitoring or competence.
-Procedural factors: Effect of drug administration or procedural interventions.

This lecture will focus on how to prevent and prepare for an arrest. Patient, human and procedural factors shown to contribute to an arrest will be considered individually including case examples. Drawing from the RECOVER guidelines the importance of preparedness of the room and individual, as well as working as a team with open communication channels will be highlighted.

Learning objectives
- Recognise high-risk patients
- Formulate plans, including monitoring guidelines for high risk patients
- Communicate level of risk to other team members
- Be prepared for complications related to any intervention
- Encourage open discussion about any high-risk patient or intervention
- Consider attending and/or implementing training programmes for individuals
- Ensure regular auditing of emergency drugs and equipment

The cryptic critical cat: Part 1 and Part 2

Cats are great pretenders. They often don't reveal that things are going wrong until they are near critical, and once they are critical, they may present with non-textbook clinical signs. These lectures aim to help the emergency vet with these challenging cats. The session will be split in to two lectures; the first lecture will consider feline shock and fluid therapy and the second lecture will consider the dyspnoeic cat.

Part 1: Feline fluid therapy

This lecture will discuss feline shock and fluid therapy. It will recap the different types of shock and the main physical examination findings associated with shock, highlighting the differences between cats and dogs with regards to heart rate, pulse palpation and non-invasive blood pressure measurement. Cardiogenic shock will be considered in isolation and the usefulness of point of care ultrasound to rule out cardiogenic shock prior to fluid therapy will be discussed. This lecture will also give practical tips for administering and monitoring fluid therapy in cats, including in the chronic kidney disease cat. The usefulness of monitoring urine output and weight changes for guiding fluid plans and preventing fluid overload will also be discussed.

Learning objectives
- Know the key perfusion parameters for assessment of shock
- Understand the limitations of non-invasive blood pressure measurement in shock
- Understand the utility of point of care ultrasound in shock
- Detect dehydration and prepare a fluid plan for a cat
- Understand importance and practicalities of monitoring fluid therapy in cats

Part 2: Feline dyspnoea

This lecture will discuss the common presentation of a dyspnoeic cat in the emergency setting. This lecture will discuss the fragility of such as case and give tips and tricks in handling these cases and determining the cause the dyspnoea with minimal stress as well as useful empirical treatment. Two key questions that affect case management will be considered:

-Is this a problem in the lungs or pleural space?
The importance of differentiating pleural space disease and lung pathology early with minimal stress will be highlighted. Minimally invasive methods to rule in or out pleural space disease will be discussed including distant assessment of breathing pattern, auscultation, point of care ultrasound and diagnostic thoracentesis.

-Is this primarily a cardiac or respiratory problem?
Differentiating congestive heart failure from primary lung disease can be tricky in an unstable cat, especially when the clinician in charge does not have access to or is not comfortable with point of care cardiac assessment in a cat. This lecture will focus on physical examination findings that are helpful (gallop, temperature), occasionally helpful (heart rate and murmur) when determining if the case in front of them has cardiac disease. Useful algorithms such as the RAPID CAT algorithm will be shared (Dickinson et al 2018). The utility of ProBNP measurement both in pleural fluid and serum alongside point of care ultrasound findings will also be discussed.

Learning objectives
- Identify the tachypnoeic or dyspnoeic cat
- Detect physical findings associated with pleural space disease
- Detect physical findings associated with cardiac disease
- Understand the limitations of physical findings in detecting cardiac disease
- Understand utility of point of care ultrasound and ProBNP in the dyspnoeic cat