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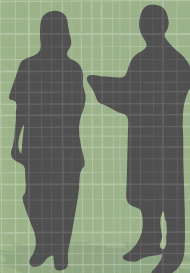
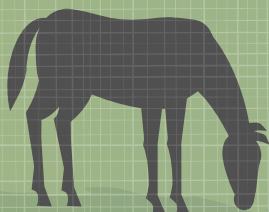
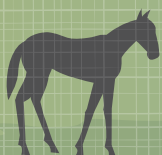
Championing the Equine Vet



60th



Handbook of Presentations



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The toolkit for acute respiratory failure

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Introduction

A toolkit is the set of skills, abilities, knowledge, or other things needed in order to perform a particular task or job. In medicine, toolkits provide practical guides, information or prompts to support clinical assessment and implementation of clinical interventions with the aim of improving patient outcomes. Acute respiratory distress and respiratory failure are unusual clinical presentations in the resting horse [1] but the emergency nature of these presentations necessitates that clinicians should be confident in their assessment and management of these cases.

Definition and pathophysiology

Respiratory distress has been defined as an excessive degree of effort to breathe based on assessment of respiratory rate, rhythm, and character, relative to the degree of physical activity [2]. The term is often used interchangeably with dyspnoea although this is more accurately the uncomfortable feeling that accompanies difficult or laboured breathing in human patients.

Respiratory distress can be caused by pathological or physiological responses that lead to hypoxaemia, hypercapnia, or high work of breathing. Physiological causes can include excessive ambient temperatures, humidity or exercise but in the resting horse, respiratory distress is most often caused by impairment of proper movement of oxygen-containing air in and out of the lungs. Less commonly, respiratory distress may be due to reduced cardiac output or reduced oxygen transport in the blood [2].

Clinical assessment

History and a thorough physical examination are the main tools available to the clinician presented with a respiratory emergency in the field and may be the only tools available before the need to perform a clinical intervention and stabilise the patient. It is therefore imperative that clinicians have the appropriate knowledge to interpret the findings of their examination which can give important information about the underlying disease process. The clinical examination together with the nature of the respiratory distress (inspiratory, expiratory or both), rate and depth of respiration can help the clinician to decide if the cause of the distress is intrathoracic, extrathoracic, or nonrespiratory in origin.

Clinical interventions and further diagnostics

After initial patient assessment, the clinician needs to consider how to stabilise the patient and consider whether it is appropriate to perform further diagnostics, treatment or transport the horse into the hospital setting. Obtaining adequate oxygenation is the primary goal and patient stabilisation may in some cases necessitate emergency treatment of bronchospasm, passage of a nasotracheal tube, oxygen supplementation, tracheostomy or pleurocentesis. Familiarity with the indications for these procedures, the appropriate technique and equipment required can result in successful management in many cases.

References

1. Mair, T.S. and Lane, J.G. (1996) The differential diagnosis of sudden onset respiratory distress. *Equine Vet. Educ.* **8**, 131-136.
2. Lakaritz, J. (2019) Alterations in respiratory function. In: *Large Animal Internal Medicine*, 6th edn, Ed: B. Smith, D. Van Metre and N. Pusterla, Elsevier, St Louis, pp 43-81.