**Stabilization of the dyspneic patient: the first 10 min**

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Successfully managing an animal with severe respiratory distress is one of the greatest challenges we face as emergency clinicians. Successful management demands that we remain acutely aware of the fragility of the dyspneic patient. The stress of life-threatening disease coupled with transport and the unfamiliar surroundings of a noisy emergency clinic should never be underestimated. Even a brief evaluation of the patient may prove fatal, especially in cats, so the initial major body system assessment may have to be performed in stages. All dyspneic animals should immediately be given supplemental oxygen using the least stressful method available. Furthermore, prior to performing any diagnostic tests on the animal, the risks of any procedure should always be carefully weighed against the potential benefits. To appreciate the significance of this, ask yourself the following question: in your experience, what the most common cause of death in dyspneic cats? Do they die spontaneously? Or do they die when something is being done to them? Unfortunately, it is usually the latter which tells us that we all need to be very, very careful with this patient group. Many cases will stabilize to some degree with oxygen and stress reduction alone. So our greatest challenge with these patients is to have the confidence to do nothing other than give oxygen for a time while the animal stabilizes even though our impulses are screaming for us to do something!

1. **Be ready before arrival**

Telephone triage is very important and sometimes tricky. But knowing what is coming and when it is coming is half of the battle! Try to get some information about the case, and give advices to the owner.

Along with the first responders, the veterinary team plays an integral role in initial evaluation and stabilization of the emergent and critical patient. Increased public demand for state-of-the-art emergency care obligates the veterinary team to provide quality care or make a direct referral to an emergency facility. By practicing organized teamwork and hospital readiness, the veterinary team can provide successful resuscitation and stabilization of the emergent patient.

By pre-assigning roles and practicing responses to various life-threatening situations, valuable time is saved, and patient morbidity is decreased. In-hospital training and practice sessions with animal models help the team respond as an effective unit. Online training in BLS, certified by the American College of Veterinary Emergency and Critical Care and based on the findings of RECOVER, is available online (www.ecornell.com/certificates/veterinary-medicine). CPR drug dosing charts, as well as CPR updates can be obtained through continuing education courses sponsored by the Veterinary Emergency and Critical Care Society (http://veccs.org).

Veterinary hospital readiness consists of providing a place for receiving, assessment of and treatment of the emergent patient. The area should be free of obstacles, and transport of the animal to the area should be uncomplicated. The area should have basic equipment and drugs required for resuscitation of the most life-threatening conditions. Hair clippers should be in the ready area for intravenous (IV) catheter placement. Isotonic crystalloid fluids with attached intravenous administration sets can be hanging ready to use in the receiving area. Synthetic colloid fluids should be kept nearby. Supplemental oxygen and suction units as well as small and large ambu bags and oxygen administration sets are in near proximity of the resuscitation area.

For those practices that see a large volume of emergencies, setting up a large mobile cart housing the instruments and equipment is ideal. Otherwise, maintaining a tackle box with emergency equipment and drugs can be an inexpensive way to provide emergency care. Have a clipboard with a CPR record and an attached CPR dose schedule. Equipment and drugs should be inspected daily and following resuscitation to ensure that the ready area is set up for the next emergency. Marking a check-off list, which itemizes the contents, allows anyone to perform the inspection. The equipment and drugs should be rotated with the hospital supply monthly to avoid waste due to expiration.

Additional preparations can be made as incoming calls are taken and information is gathered. Once it has been determined that a patient with a potentially life-threatening problem is due to arrive, the treatment staff should be notified verbally. A dry erase board can be placed in the general treatment area and all animals listed that are due to arrive, with their estimated time of arrival and presenting complaint noted. This allows the treatment staff to plan their time and procedures efficiently.

1. **Triage: take the most of your physical examination**

Triage is the process of 'sorting out'/prioritizing treatment necessities based on urgency. It is a very quick procedure and should be done immediately on patient arrival at the clinic. It requires good coordination between the receptionist and the medical team. Severely affected/unstable patients should be taken to the treatment area without delay. It is also important to take 30 seconds to find out why the animal is admitted. It will decrease the risk of bad medication and help you in your differential.

The 'ABCs' are the most important part of the triage process: Airway, Breathing, Circulation. So evaluation of the respiratory system is the first step of the triage!

If the patient has no patent airway, is not breathing or has no pulse, the triage process is interrupted and the patient is brought through to the treatment area to commence cardiopulmonary cerebral resuscitation (CPCR). RECOVER guidelines are available on line and will be discussed during the congress.

If your patient is breathing, it is advisable to use a 'hands-off' approach when assessing the dyspnoeic patient because it is often possible to get a better idea of the underlying pathology when breathing rate, effort, noise and rhythm are observed. Preferably, this is done with the patient positioned in an oxygen-enriched environment.

Typical features of main localizations of underlying disease:

* Loud respiratory sounds? Rule out upper respiratory disease
* Expiratory effort, abdominal push, wheezing? Rule out lower respiratory disease
* Increased lung sounds, inspiratory/expiratory effort? Rule out lung parenchymal disease
* Decreased lung sounds, muffled heart sounds, asynchronous or rapid-shallow breathing? Rule out pleural space disease
* Irregular respiratory rhythms are almost invariably associated with central nervous system abnormalities

1. **Stabilization**

Once you have the most likely localization, specific treatment can be organized.

In the emergent phase, oxygen supplementation and sedation are very important. Oxygen should be provided to respiratory patients in as simple and stress-free a manner as possible. Placing nasal cannulae in this high-anxiety, dyspneic state is often too stressful, even though this is considered one of the most efficient methods of oxygen supplementation. Typically, flow-by oxygen is used upon presentation, occasionally with a mask, although this too can be stressful. Flow-by oxygen provides the most oxygen enrichment at flow rates of 100 to 150 ml/kg. For description of the techniques, see the proceeding on oxygen therapy.

Sedation is important to decrease oxygen consumption. Butorphanol (0.2 mg/kg SC/IM/IV) is the drug of choice.

During or after assuring a patent airway, providing oxygen supplementation and sedation, and acquiring intravenous access if possible, examination of the patient should be done. The most important clues may be obtained from auscultation of the thorax and neck, as well as observation of the respiratory pattern. More recently, the availability of thoracic ultrasound can provide valuable information for anatomic location of the pathology in the pulmonary system and will be developed du the congress.

Specific action should be taken based on the main diagnosis:

* General anesthesia and oro-tracheal intubation in case of severe upper airway obstruction
* Thoracocentesis in case of pleural effusion
* Furosemide in case of heart failure, glucocorticoids and bronchodilators in case of asthma…

Conclusion

Respiratory distress is a common presenting complaint in emergency medicine. Aggressive, yet judicious therapy should be provided to optimize the outcome. Because many of these patients are severely compromised, diagnostic tests may be limited until initial stabilization is provided. Auscultation of the pulmonary and cardiovascular system combined with signalment and a careful medical history may provide important clues to the underlying cause and allow the clinician to provide judicious empirical therapy until definitive diagnostic procedures may be performed.