Abstract for RACE program

Program Title: Anesthesia Machine Anatomy and Applications

Program Description: This course will illustrate the functions of the anesthesia machine as well as the parts of a complete veterinary anesthesia system from oxygen to waste anesthetic gas disposal and everything in between. Parts of commonly used machines and troubleshooting will be reviewed, and pressure checking will be demonstrated. To round out the course, oxygen flow rates and breathing circuits will be discussed.

Program Agenda:

1) Function of the anesthesia machine
    a. Delivery of O2
        i. Flowrates for rebreathing vs non rebreathing systems
    b. Delivery of anesthetic
        i. Brief description of how anesthetic is delivered to the patient
    c. Removal of CO2
        i. How and where CO2 is removed
        ii. Soda lime characteristics
        iii. Rebreathing of CO2
    d. Removal of WAG
        i. How this occurs
        ii. Tips to minimize exposure
2) Machine parts, flow and troubleshooting
    a. O2 sources
    b. Parts of the machine (rebreathing) and common problem areas
    c. WAG disposal systems
        i. Active vs passive
    d. Pressure testing the machine
3) Breathing circuits
    a. Y and F rebreathing circuits (adult vs pediatric)
    b. Non rebreathing circuits
    c. Mechanical dead space

Learning Objectives:

1) Attendee will learn how the anesthesia machine delivers agent to the patient, removes carbon dioxide and waste gases as part of a multi component system. Attendee will be able to identify parts of the machine, trace the flow of gases and troubleshoot common problems. One will be able to perform a leak test and know the risks involved as well as how to utilize proper breathing circuits to optimize patient ventilation.
2) The anesthesia system has many moving parts and an attendee of this course should be able to help out other licensees with anesthesia machine troubleshooting and determine if there is an issue with the equipment vs the patient.