

Abstract

Introduction Dogs and cats often present to the emergency room (ER) in critical condition. This necessitates immediate interventions to stabilize the patient. In many instances, especially with non-ambulatory large breed dogs, there may be no opportunity to obtain an accurate weight before life-saving medications are administered. Thus, accurate weight estimation is critical for calculating approximate dosages, determining rates of fluid replacement and selecting correct equipment sizes in dogs and cats that need to be emergently resuscitated. There is, to the author's knowledge, no information about weight estimation in veterinary medicine. In human patients, a standard formula for estimating children's weights in the ER was developed but showed inaccuracies. Tape measures that estimate weights have also been developed for children. Software applications (apps) have also shown some promise in estimating weights. However, studies have demonstrated that having the patient (or parent) provide their weight is more accurate than a nurse or physician.

Research hypothesis and specific objectives We hypothesize that **1.** Student, nurses and doctors will provide inaccurate weight estimate although there may be a linear relationship between accurate weight estimates and length of experience in the veterinary field **2.** The pet owner (client) will provide the most reliable weight estimate for the pet.

Materials and Methods This study is designed as prospective observational study performed in the ER at the University of Florida. All dogs and cats, over 2kg, able to have their weight measured using a standard scale will be eligible for inclusion in the study. Members of the ER team, including students, nurses, veterinary interns, veterinary residents and critical care faculty members will be asked to record their estimate of the patients' weight before weighing the patients. The pet owners will also be asked to record their pets' weight. The main outcome will be the average per cent error in weight estimation (calculated as the absolute difference between estimated and actual weight divided by the actual weight) for each of the client, student, nursing and veterinarian group. Secondary outcomes include per cent accuracy to within 1kg, 2.5kg and 5kg of the actual weight of the pet, as well as determining if length of experience in the veterinary field correlates with accurate weight estimates.

Student Role The FVSP student will be involved in all aspects of the data. In order to maintain blinded weights, the student will ask for estimated weights from the ER staff before the patient is weighed. The student will also be responsible for obtaining estimated weights from the pet owner. The FVSP student will be involved in compiling and evaluating the data as well as publication of the results in an open access journal. Finally, the student will have many opportunities to observe management of cases in the ER.