Bovine reproductive palpation training: what methods make a difference and do our skills really transfer?

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Gaining experience and dexterity for trans-rectal cattle palpation requires time and training. Studies conducted with simulation models allow students to perform palpation without any risks and obtain feedback, but many believe that live cattle palpation is essential for training. There is limited research on the proper method for training live animal trans-rectal palpation skills. To examine this topic, we conducted two investigations. The first study compared student improvement in palpation skills when assigned to the same cows weekly versus choosing a cow at random over an eight week period. The hypothesis for the study was: assigned students will be more accurate at palpation since they are examining the same cows each week; will learn what structures are present on the ovaries and what sizes the reproductive tract measures; and will be able to follow the cyclicity of the cow over time. Cervical diameter, uterine tone, diameter of left and right uterine horns, pregnancy status, and ovarian structures were recorded over time. Responses were compared to laboratory instructor’s responses and z-tests for proportions were used to test the differences in percent correct at each time point for each palpation exercise. Although significant differences were seen at different time points, no overall difference was seen between training methods. Veterinary educators are challenged to teach large and small animal palpation skills. Often students’ interests are in the former or latter, but not usually for both. The second experiment conducted assessed student’s small animal trans-abdominal palpation skills before and after large animal trans-rectal palpation training. The hypothesis for this study was: students’ small animal palpation skills will improve after large animal palpation training. Students palpated four feline models prior to participating in eight weeks of bovine palpation labs with supplemental palpating exercises. A palpation questionnaire and scoring rubric were used for student responses on the presence, measurement, texture and tone of four organs (abdominal mass, right/left kidney, and bladder) within the four feline models. No improvement was seen in the trans-abdominal palpation skills of students after eight weeks of laboratories. Although statistically significant improvement was not seen in either study, both experiments led to changes in how skills are taught and further improvement in creating an integrated curriculum. The palpation study demonstrated cow assignment did not improve skills for live animal palpation, but gave students more direct instructions and key structures to identify. This allowed instructors to have more productive learning time with students. While the lack of transferability of palpation skills between large and small animals may seem surprising, this is normal for early learners. Novices learn clinical skills by breaking them into components and rigidly following a sequence of events. It is not until a learner reaches proficiency that he/she is able to make generalizations and act intuitively in new situations that require the same skills. The trans-abdominal study justified the continued allocation of time in the curriculum for teaching both bovine trans-rectal palpation and small animal trans-abdominal palpation thoroughly, without the expectation that a novice is able to transfer skills between these two methods of palpation.

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