

Nicole Moody
Major Advisor: Dr. Mary Anne Amalaradjou
Research Advisor: Dr. Sarah Reed

Title: Physiological Effects of a Stepwise Reconditioning Program in Polo Ponies

Abstract: Reconditioning protocols are not well-described in polo ponies, and none have been validated scientifically to determine if they do indeed improve fitness. Therefore, with this project, our objective is to determine if a stepwise fitness program will improve fitness in polo ponies. We hypothesize that a 9 week stepwise reconditioning program would increase fitness, determined by lower heart rate, faster heart rate recovery, and lower blood lactate concentration in response to an exercise test. Six deconditioned polo pony mares 16.33 ± 2.20 years of age from the UConn Polo string were used in this study. They participated in a reconditioning program for 9 weeks and performed a standardized submaximal exercise test (SET) before and after the program. During the two SETs, heart rate and blood lactate concentration were measured as they have shown to be reliable indicators of fitness in other species such as humans. In addition, distance traveled was measured to calculate the speed of each gait during the SETs. Gait speed showed to be consistent between SETs making the intensity of SETs equivalent. Heart rate in SET 2 was significantly increased when compared to SET 1 and there was no impact of reconditioning on blood lactate concentration. In conclusion, heart rate and blood lactate concentration showed to be poor indicators of fitness in horses performing submaximal exercise tests. Further research is needed to determine reliable indicators of fitness in horses that are not impacted by non-fitness related variables.