

Introduction

Poles have anecdotally been described to increase range of motion and muscle activity, which are two of the large goals in veterinary physiotherapy, but there is very little evidence demonstrating the effects and benefits of using pole work.

The aim of this study was to assess the effects that two different heights of poles had on forelimb range of motion and determine the most effective in regard to increasing range of motion for the veterinary physiotherapist.

Methods

-Reflective markers of 30mm diameter were attached to the centre of rotation of forelimbs joints of eight sound horses, being: tuber spinae scapulae, greater tubercle of humerus, lateral epicondyle, ulnar carpal bone, lateral condyle of third metacarpus and on the coronet band.

-Horses were recorded with high-speed camera (240fps) walking without poles and over low poles (11 cm) and high poles (20 cm) spaced 90 cm apart.

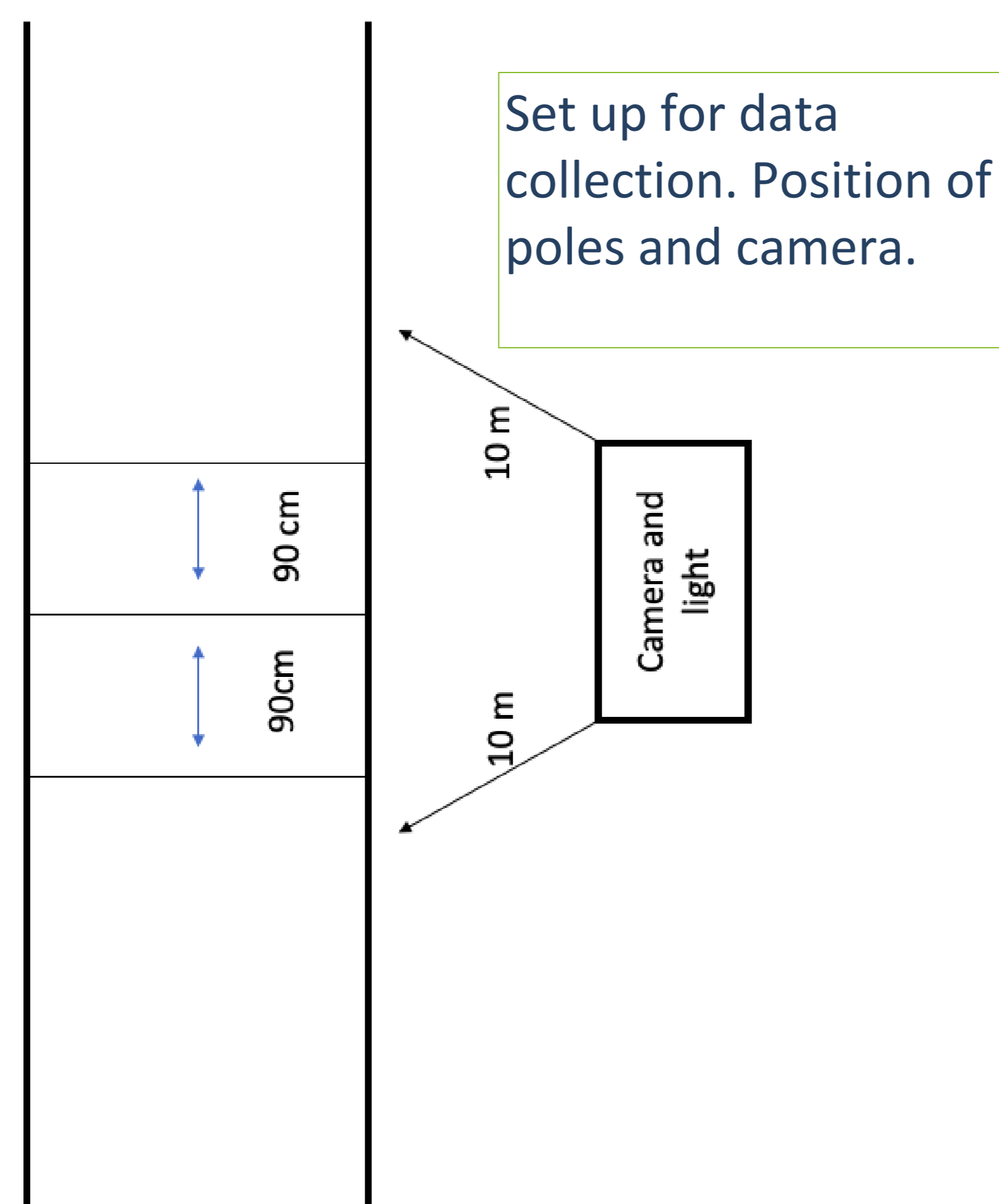
-Quintic biomechanics analysis software (v. 29) was used to track the markers and determine maximum joint flexion and extension.

-Range of motion was then calculated

-Data was analysed on SPSS by one-way repeated measures ANOVA.



Reflective markers applied to the joints centre of rotation



Conclusion

We could infer that the increases in swing phase joint flexions indicate that working over poles is effective for activating and strengthening the flexor musculature. Raised poles have been shown to be the most effective at increasing range of motion during walk, however it is essential that care is taken and the horse has adapted to the raised poles, and fatigue is not caused, therefore it may be required to use low poles initially to then progress onto raised poles for more therapeutic benefit.

Results

