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Measurement of horse movement parameters with the use of digital camera

S u m m a r y

Movement parameters were examined in 30 horses (10 horses of over 156 cm at withers and 20 ponies of under 148 cm at withers). Each horse was shown in hand and under saddle at a long side of a manege. The horse movement registered with a digital camera was analyzed after computer transibrmation. Individual step length in different movements and maximum height of hoof lifting were determined. Statistical analysis has shown that absolute mean length and height of steps differ significantly, whereas indices of these parameters are similar (differences statistically insignificant). For instance, mean values of the indices for the trot in hand and under saddle equalled 160% and 155% in horses and 165% and 160% in ponies, respectively. The step length of the horse under saddle was usually lower than in hand. Computer picture analyses of the horse movement was found to be useful for the evaluation of horse movement parameters. The horse's height at withers estimated earlier is the best comparative measure for the picture calibration.