

The Technical Analysis of Clear Hip Circle Backward to Handstand on Uneven Bars in Gymnastics

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The clear hip circle backward to handstand (CHCH) is a technically demanding gymnastic element on the uneven bars that showcase the athlete's body coordination and speed. Most of the players, CHCH start with a handstand on the bar to obtain the maximum potential energy. It includes a swing backward and a transition of under grip and over grip. The moving of shoulders and hip joints through CHCH are key factors to perform skill artistically. This study aims to assess the influence of the initial angle of the shoulder and hip angle near the bars on the executions. Chinese female players (n=32, age 9+2 years, training age 4+1 years) were selected as a sample of the study. Three tests were employed for the sample: pre-test, mid-test, and post-test. The technical corrections were introduced during the training period to the treatment group (16) throughout one training module in a pre-competition period: shoulder movement and hip angle were considered to correct the movement pattern. A high-speed camera (100 Hz) and reflective markers (14mm) were used to determine the time history of attached markers on the joints of subjects on the sagittal plane surface. The execution of CHCH performance of the treatment group between the pre-test and post-test shows significant improvement p value = 0.001595 (p<0.005) by paired t- Test. Therefore, the execution of CHCH performance will be increased when the player uses the right body posture throughout the movement: the initial shoulder placement (not moving forward in the first 450 of motion), and hip angles (close to 1800) are special technical corrections.

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