Kinematic Analysis of Double Stretched Salto Backward on Rings in Gymnastics

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RINGS

Men’s Gymnastics

floor
parallel bars
horizontal bar
rings
pommel horse
vault

National Sports Academy - Sofia, 2011
The purpose of this study was to conduct a comparative kinematic analysis of the dismount - double stretched salto backward on rings, in addition to giving a summary of methodological recommendations for its training.
Objectives and tasks

- Calculating kinematic variables of the main joints (shoulders, hips and ankles).
- Describing and analysing the technique of the exercise.
- Offering a progressive methodology for achieving an adequate technique for the exercise.
Results

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Preparatory phase
Execution phase
Landing phase

Speed [m/s] of the ankle, hip and shoulder joints

Ankle joints
Hip joints
Shoulder joints

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Time /sec./
Angular Frequency - $\omega$ [rad/s]

Time /sec./
Methodology of training

- Performing a dismount – double salto backward pucked (open tucked) on rings from handstand.
Performing a dismount – one and a half salto backward stretched to flat back on soft mats.
○ On a trampoline – performing double salto backward stretched with a spotting rig.
○ Performing the skill from a trampoline into a gymnastics pit or onto soft mats.
Performing double salto backward stretched on a trampoline.
- Performing double salto backward stretched on rings above into a gymnastics pit.
- Performing the skill from a handstand or a backward giant swing, landing on soft mats.
Conclusions and recommendations

- The gymnast should possess a technique which is adequate for the performance of basic gymnastics skills, in order then to learn and execute this exercise successfully.

- The critical issue regarding the analysed exercise is the amplitude of swing combined with the strength of the leg kick.
Conclusions and recommendations

- We recommend that our methodology for learning the analysed exercise should be taught in the same progressive order.
- We recommend that any technical mistakes during the training process should be eliminated as soon as possible.
Thank You!