

# 後方かかえ込み宙返りにおける視線の移動パターン

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## Patterns of the Lines of Sight in Back Tuck Somersaults

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### Abstract

Although visual information is important for a performance of a somersault, the shifting patterns of the lines of sight in the somersault have not been clarified. Therefore, I attempted to measure the coordination of eye-head movements to clarify the shifting patterns of the lines of sight during a back tuck somersault. In this study, 8 male skilled gymnasts (age:  $20.1 \pm 1.6$  yrs., training experience in gymnastics:  $11.9 \pm 3.0$  yrs.) executed the back tuck somersault. The lines of sight were obtained by adding the angular excursions of the eye and head together. As a result, two shifting patterns of the lines of sight were identified. In one shifting pattern, the gymnasts fixated their lines of sight slightly upwards immediately after takeoff; and in the other shifting pattern, the gymnasts did not fixate their lines of sight slightly upwards, but shifted the lines of sight to a landing surface immediately after takeoff. All of the gymnasts fixated their lines of sight on the landing surface before the landing, regardless of the shifting patterns. Although the gymnasts who did not fixate their lines of sight slightly upwards after takeoff fixed their lines of sight on the landing surface earlier than those who fixated their lines of sight slightly upwards, the duration of the fixation did not affect the success or failure of landing. It is suggested that gymnasts use visual information by the fixation of their eyes on the landing surface before the landing.

**Key words:** Coordination of eye-head movements, Gymnastics, Landing, Vision

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