空手における打撃時の体軸回転
The axis of rotation of the body during a thrusting in Karate.

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PURPOSE: The purpose of this study was to clarify the changes in the axis of rotation of the body during a thrusting in Karate.

METHODS: The subjects were Karate players in a college, and they performed a thrusting movement with a step on the force plate (Kistler, Switzerland).

The thrusting movements were recorded by high-speed VTR camera (250fps), and the two-dimensional coordinates of the movements were calculated using Frame-DIAS (V4, DKH, Japan).

RESULTS & CONCLUSIONS: The body's center of gravity was calculated from the signal of force plate.

During thrusting, the axis of rotation was not fixed in a certain position, and moved in each phase of thrusting.

Because the lower part of trunk is heavy, it rotated with a smaller turning radius. On the other hand, in order to utilize the rotation power produced by the lower limbs, the arm rotated with a larger turning radius by moving its axis of rotation.