Tohoku Univ. Technology

Method for evaluating landing stability

Landing stability evaluation system useful for injury prevention, sports training, shoe development, etc.

Overview

Instability after landing on the foot is one of the causes of frequent ankle sprains during exercise and falls in the elderly. Therefore, if stability in landing can be evaluated with high accuracy, the effect of treatment or functional recovery training or the effect of the use of exercise aids such as insoles can be properly evaluated.

Conventionally, stability has been evaluated by measuring the total trajectory length and trajectory area of the movement trajectory of the center of pressure. However, these parameters fluctuate relatively widely depending on the adjustment of posture by the balance function, the height of jumping, and the body weight. Therefore, the stability in landing may not be evaluated with high accuracy.

The present invention relates to an algorithm for defining a stability range of dynamic stability for a center of pressure after landing.

Product Application

- assessment of fall risk
- Evaluation of the effectiveness of rehabilitation
- Evaluation in the development of high-value-added shoes, insoles, etc.
- Application to health sports and games

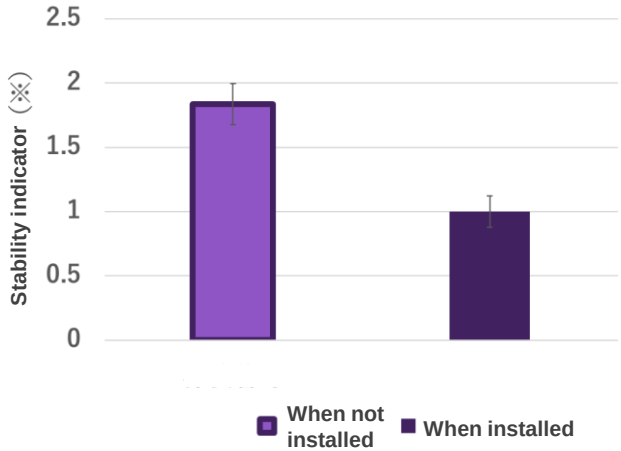
IP Data

IP No.	:	JP2021-190604
Inventor	:	NAGATOMI Ryoichi, MONIWA Yuki
Admin No.	:	T19-917

Example of use of this evaluation system: verification of the effect of insoles

A Case Study of the Stability Effect of Insole Installation

（※） Stability indicator: Smaller is more stable



This technology can be used in many fields such as sports, rehabilitation and nursing care.

Contact

Tohoku Techno Arch Co., Ltd.
Please visit CONTACT here