SCIENTIFIC PAPER

Normative Data of Lumbar Spinal Dynamic Function for Chinese 
People Without Low Back Pain

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ABSTRACT

Objectives: The lumbar spinal dynamic functions have been evaluated by many Isostation dynamic instruments. However, normative data are based on data collected from Caucasians. This study aims to develop a normative database for a Chinese population and compare these data to those of Caucasians.

Patients and Methods: 120 local Chinese people with no history of low back pain during the past 6 months or any prior back surgery volunteered to participate in this study. The lumbar spinal function of each participant was assessed on the Isostation B-200 according to the protocol provided by the manufacturer. The data were analysed and compared with those originating from Caucasians.

Results: Significant differences were found with respect to many parameters between Chinese and Caucasian populations. Compared with data from Caucasian populations, Chinese people showed a higher isometric maximum torque to body weight ratio in directions of rotation, extension, and lateral flexion for both men and women. In addition, the isometric maximum extension torque to flexion torque ratio was higher for the Chinese population.

Conclusion: Due to the significant differences of lumbar spinal function between ‘healthy’ Caucasians and Chinese people, a normative database for Chinese population is necessary. Based on this study, a more representative database for the Chinese population is established for the applicability of the Occupational Orthopaedic Centre program for Chinese people.

Key Words: Chinese, Low back pain

中文摘要

正常中國人腰椎動態功能評定

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本研究對120名無下腰痛(low back pain)的本地中國人腰椎動態功能進行了評定，結果顯示：與以白種人為基礎的正常參照值相比，中國人在很多指標上存在顯著區別。本文對此種差異及中國人的腰椎功能結果進行了分析，以為有必要建立一適當正常中國人腰椎動態功能的參照數據庫。