

# 介助動作における腰部椎間板の3軸方向の圧迫力と体幹筋疲労に関する実験的研究

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雑誌名	平成18(2006)年度 科学研究費補助金 基盤研究(C) 研究成果報告書概要
巻	2004 2006
ページ	2p.
発行年	2008-05-26
URL	<a href="http://doi.org/10.24517/00063065">http://doi.org/10.24517/00063065</a>



# 2006 Fiscal Year Final Research Report Summary

Measurement of compression force and surface electromyographic activities in the lumbar intervertebral disk during the transferring of patients.

Research Project

## Project/Area Number

16591481

## Research Category

Grant-in-Aid for Scientific Research (C)

## Allocation Type

Single-year Grants

## Section

一般

## Research Field

Orthopaedic surgery

## Research Institution

Kanazawa University

## Principal Investigator

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## Project Period (FY)

2004 - 2006

## Keywords

Compression force / 3D analysis / Risk factors / Assisting motion / RULA / RULA

## Research Abstract

The purpose of this study was to establish an efficient assistance method by the mechanical examination of compression force on caregivers who assist in the transfer of severely disability patients from their beds. The subjects were 22 young adult females. Care-giving movements were examined by ultrasonic 3D motion analysis (Zebris) and Rapid upper limb assessment : RULA. The compression force and risk factor were compared using the transfer-belt and non transfer-belt. The body trunk, lumbar intervertebral disk, and pelvic angle in standing-up and sitting-down movements were examined with and without a belt for assistance. The compression force on the lumbar intervertebral disk region caused by tasks was significantly lower at the start and end of tasks with than that without a belt for assistance ( $P<0.05$ ). There was a highly positive correlation between the pressure on the lumbar region and RULA ( $r=0.81$ ), and such pressure on the lumbar region could be estimated by postural evaluation during assistance.

# Research Products (1 results)

All 2007

All Book

[Book] Clinical Reasoning 腰痛を防ぐ介助方法とメカニズム

2007 ▼

URL: [https://kaken.nii.ac.jp/report/KAKENHI-PROJECT-16591481/165914812006kenkyu\\_seika\\_hokoku](https://kaken.nii.ac.jp/report/KAKENHI-PROJECT-16591481/165914812006kenkyu_seika_hokoku)

Published: 2008-05-26