## **Accepted Manuscript**

Cross-correlation between spine and hip joint kinematics differs in healthy individuals and subgroups of ankylosing spondylitis patients during trunk lateral flexion

Shin-Tsu Chang, Kuo-Lung Lai, Fang-Chuan Kuo, Yu-San Kao

PII: S2468-7812(18)30339-4

DOI: 10.1016/j.msksp.2018.09.001

Reference: MSKSP 1925

To appear in: Musculoskeletal Science and Practice

Received Date: 6 December 2017
Revised Date: 29 August 2018
Accepted Date: 3 September 2018

Please cite this article as: Chang, S.-T., Lai, K.-L., Kuo, F.-C., Kao, Y.-S., Cross-correlation between spine and hip joint kinematics differs in healthy individuals and subgroups of ankylosing spondylitis patients during trunk lateral flexion, *Musculoskeletal Science and Practice* (2018), doi: 10.1016/j.msksp.2018.09.001.

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.



#### ACCEPTED MANUSCRIPT

Cross-correlation between spine and hip joint kinematics differs in healthy individuals and subgroups of ankylosing spondylitis patients during trunk lateral flexion

Shin-Tsu Chang, MD, PhD<sup>1,2</sup>; Kuo-Lung Lai, MD<sup>3</sup>; Fang-Chuan Kuo PT, PhD<sup>4\*</sup> Yu-San Kao, MS<sup>5</sup>

<sup>1</sup> Department of Rehabilitation, Taichung Veterans General Hospital, Taichung, Taiwan.

<sup>2</sup> Department of Physical Medicine and Rehabilitation, School of Medicine, National Defense Medical Center, Taipei, Taiwan.

<sup>3</sup> Division of Allergy, Immunology and Rheumatology, Department of Internal Medicine, Taichung Veterans General Hospital, Taichung, Taiwan.

<sup>4</sup> Department of Physical Therapy, Hungkuang University, Taichung, Taiwan.

<sup>5</sup> Department of Microbiology & Immunology of National Cheng Kung University, Tainan, Taiwan.

#### \*Corresponding author

Fang-Chuan Kuo

Department of Physical Therapy, Hungkuang University, Taichung, Taiwan.

No.1018, Sec. 6, Taiwan Boulevard, Shalu District, Taichung City, Taiwan

43302, R.O.C.

E-mail: kfc@hk.edu.tw

TEL: 886426318652 ext 3307

Fax: 886426324105

**Ethics approval:** The Institutional Review Board of Taichung Veterans

General Hospital Ethics Committee(s) approved this study. All

participants gave written informed consent before data

collection began. IRB TCVGH No: CE16133A.

**Competing interests:** Nil

### Download English Version:

# https://daneshyari.com/en/article/10122859

Download Persian Version:

https://daneshyari.com/article/10122859

<u>Daneshyari.com</u>