

Accepted Manuscript

Biomarkers reflect differences in osteoarthritis phenotypes of the lumbar spine: The Johnston County Osteoarthritis Project

Adam P. Goode, DPT, PhD, Associate Professor, Amanda E. Nelson, MD, MSCR, Assistant Professor, Virginia B. Kraus, MD, PhD, Professor, Jordan B. Renner, MD, Professor, Joanne M. Jordan, MD, MPH, Professor

PII: S1063-4584(17)31086-5

DOI: [10.1016/j.joca.2017.07.007](https://doi.org/10.1016/j.joca.2017.07.007)

Reference: YJOCA 4045

To appear in: *Osteoarthritis and Cartilage*

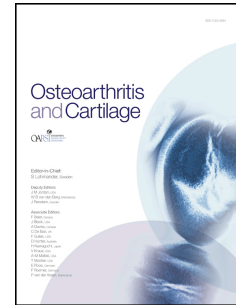
Received Date: 2 November 2016

Revised Date: 2 June 2017

Accepted Date: 5 July 2017

Please cite this article as: Goode AP, Nelson AE, Kraus VB, Renner JB, Jordan JM, Biomarkers reflect differences in osteoarthritis phenotypes of the lumbar spine: The Johnston County Osteoarthritis Project, *Osteoarthritis and Cartilage* (2017), doi: 10.1016/j.joca.2017.07.007.

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.



Biomarkers reflect differences in osteoarthritis phenotypes of the lumbar spine: The Johnston County Osteoarthritis Project

Adam P. Goode, DPT, PhD
Associate Professor
Department of Orthopedic Surgery
Duke Clinical Research Institute
Duke University School of Medicine

Amanda E. Nelson, MD, MSCR
Assistant Professor
Thurston Arthritis Research Center
University of North Carolina, Chapel Hill

Virginia B. Kraus, MD, PhD
Professor
Duke Molecular Physiology Institute and Division of Rheumatology
Duke University School of Medicine
Durham, NC

Jordan B. Renner, MD
Professor
Thurston Arthritis Research Center
Department of Radiology
University of North Carolina, Chapel Hill

Joanne M. Jordan, MD, MPH
Professor
Thurston Arthritis Research Center
University of North Carolina, Chapel Hill

Word Count: 3,340

Running Title: Osteoarthritis phenotypes in the lumbar spine

Download English Version:

<https://daneshyari.com/en/article/8742042>

Download Persian Version:

<https://daneshyari.com/article/8742042>

[Daneshyari.com](https://daneshyari.com)